00032763

THE
ASIATIC SOCIETY OF BOMBAY
Town Hall, Bombay.

Digitized with financial assistance from the
Government of Maharashtra
on 28 September, 2015

A A 2

T. Picken, Lith.

Day & Son, Lith^rs to The Queen.

00032763

A PERSONAL NARRATIVE

OF THE DISCOVERY OF THE

NORTH-WEST PASSAGE;

637

WITH NUMEROUS

INCIDENTS OF TRAVEL AND ADVENTURE

DURING NEARLY FIVE YEARS' CONTINUOUS SERVICE IN THE ARCTIC REGIONS
WHILE IN SEARCH OF THE

EXPEDITION UNDER SIR JOHN FRANKLIN.

BY ALEX. ARMSTRONG, M.D., R.N.
FELLOW OF THE ROYAL GEOGRAPHICAL SOCIETY;
LATE SURGEON AND NATURALIST OF H.M.S. 'INVESTIGATOR.'

AA e 2

PUBLISHED WITH THE SANCTION OF
THE LORDS COMMISSIONERS OF THE ADMIRALTY.

32763
ac

LONDON:
HURST AND BLACKETT, PUBLISHERS,
SUCCESSORS TO HENRY COLBURN,
13, GREAT MARLBOROUGH STREET.
1857.

The right of Translation is reserved.

910.8
Arm/Per
32763

LONDON:
Printed by Schulze and Co., 13, Poland Street.

32763

TO

FIELD MARSHAL

HIS ROYAL HIGHNESS PRINCE ALBERT, K.G.

&c., &c., &c.

THE FOLLOWING PAGES ARE,

WITH THE GRACIOUS PERMISSION OF

HIS ROYAL HIGHNESS,

MOST RESPECTFULLY DEDICATED,

IN ADMIRATION OF

HIS DISTINGUISHED TALENTS AND VIRTUES,

AND OF

THE FOSTERING PATRONAGE

HE HAS EVER EXTENDED TO

SCIENCE, LITERATURE AND ART,—

AS WELL AS

IN GRATEFUL ACKNOWLEDGMENT

OF MANY ACTS OF CONDESCENSION AND KINDNESS

RECEIVED AT THE HANDS OF HIS ROYAL HIGHNESS,

WHEN FORMERLY SERVING IN

HER MAJESTY'S YACHT,

BY

HIS ROYAL HIGHNESS'S

MOST OBEDIENT HUMBLE SERVANT,

THE AUTHOR.

PREFACE.

THE delay which has arisen in the publication of this Narrative, has proceeded from circumstances over which I had no control.

On my return, from Arctic Service, at the close of 1854, my health was so much shattered, that I was unable to undertake any literary labour. Early in the following year, as soon as it was recruited, the exigencies of the war in which this country was then engaged, called me again into active service. After taking part in the Baltic campaign, the ship to which I belonged was ordered to the West Indies, from whence I have but lately returned, and until very recently have been unable to devote any time to authorship. I still hope, however, that a faithful Personal Narrative of the circumstances attending this memorable voyage, may not prove uninteresting. It possesses the advantage of having been compiled from a Journal in which I daily noted events precisely as they occurred, and now publish at the request of my former shipmates.

My principal object in writing this Work, has been to do justice *to every one* engaged in a voyage which,

for its duration and privations, is, I believe, unparalleled in Maritime annals; and to place before the world an accurate account of deeds, which, for heroism, devotion, and endurance, have never been surpassed; feeling assured that all employed in this Expedition are entitled to the admiration and the gratitude of their country. Agreeable as this duty has been to me, it has not been without its alloy. I have felt that I could not, consistently with the impartial discharge of my duty as the Historian of the North-West Passage, record some of the events, without giving them what I know to be both a just, and an honest criticism. That we committed errors in our voyage, it is vain to deny; and, unpleasant as it has been to me to point them out, I should consider myself unworthy the title I have assumed, had I shrunk from doing so. I trust, however, my remarks will be received in the spirit which induced me to make them, and that others may avoid the errors we committed, should they ever be engaged on a similar service.

It has been stated that our Discovery of the Passage was secondary to that of Sir John Franklin's Expedition. This, in the present state of our knowledge regarding the fate of that Expedition, I cannot admit. I should feel happy, not only to concede the point, but to announce it, in my reverence for the memory of such a brave and intrepid band, could I be convinced any proof existed of

their having reached the Coast of America in the summer of 1850. That they did reach this Coast, I freely admit, and, assuming that they did so by Peel Sound—thereby establishing the existence of a Passage in that direction—there is no evidence which can possibly be relied on, that it was prior to the period of our 'Discovery, (October, 1850). In the absence of this proof, therefore, I must reserve for H.M.S. 'Investigator' the priority of the discovery. But should the fact be ascertained to the contrary, I shall be the first to acknowledge it, with undying admiration for those who sacrificed their lives in its attainment.

I have to regret that the department of Natural History, in connection with our voyage, is not so full or satisfactory as I could have wished, from the fact of my entire collection having been left in the ship, much to my regret, on her abandonment. I have, however, endeavoured to supply the deficiency, as far as lay in my power, from my notes.

I am indebted to Dr. J. D. Hooker, F.R.S., of Kew, for the information, that he had described and published an account of the plants collected by my late friend, Robert Anderson, Esq., Surgeon of H.M.S. 'Enterprize,' (by whose death the Navy lost one of its ablest and most accomplished Medical Officers). As these specimens were obtained on the same lands as my own, and as they are identical with them, I have placed a list of them in the Appendix.

To Wm. M. Rice, Esq., of Woolwich Dockyard, I am greatly indebted for having obligingly furnished me with beautifully-executed drawings illustrative of the plan by which the 'Investigator' was strengthened for the ice, and warmed by means of Sylvester's Heating Apparatus, together with two valuable Papers on the subject:—that on the Warming Apparatus was compiled by S. Egan Rosser, Esq., C.E. I regret, however, that the drawings came too late to be at present available. The Papers will be found in the Appendix.

I beg to express my grateful acknowledgments to Sir James Clark, Bart., Physician to Her Majesty the Queen, for the personal kindness and valuable advice and assistance I have received from him in connection with this Work.

From Dr. M'Cormick, R.N. I received a very interesting account of the Geology of Kerguelen's Land, and for which I beg to return my sincere thanks.

To Alex. Carte, Esq., of the Royal Dublin Society, Captain Washington, Hydrographer of the Admiralty, John Barrow, Esq., F.R.S., Richard King, Esq., M.D., and other kind friends, my best thanks are due, for their handsome offers of assistance when preparing this Narrative for the Press.

London, March, 1857.

CONTENTS.

CHAPTER I.

Departure from England—Weather—First Disaster at Sea—Our Crew —Heavy Gale—Ship Leaky—Results—Part Company with our Consort—Change of Weather—Means adopted for drying Ship—Cause of Leakage—Results of our Hasty Departure from England —Lime Juice—Enter the Tropics—Temperature of Air and Decks —Crowded State and Results—Evenings in the Tropics—The Tropic Bird—Flying Fish—Their Flight, &c.—Change of Weather —Stormy Petrel—Rain and Incidents—Thunder—Porpoises—Bathing—Strange Sail—Cross the Equator—Ships—Their Suspicious Appearance—Leave the Tropics—Temperate Zone—Sunset —Weather—Albatross and other Birds—Character of Winds on either side of Equator—Discolouration of Water—South-west Gale —Incidents—South America—Moth, Flight and Capture—Change of Weather, &c.—A Whale—Progress—Temperature and Soundings—Birds—Double Pay commences—Land—Cape Virgins—Enter Straits of Magellan—Guanacos—Patagonia and Terra del Fuego—Appearances of Land—Meet H.M.S. 'Gorgon'—Another Steamer—Intelligence of 'Enterprise'—Taken in Tow—Sight a Wreck—The Coast—Patagonians—Fuegian Coast—Temperature —Port Famine—Altered Aspect of Land—Fortescue Bay—Meet our Consort and Incidents. . . . 1—29

CHAPTER II.

Preparations for leaving the Strait—Medical Survey—Specimens obtained—Departure—Aspect of the Land—Fuegians—Their Appearance, &c.—Enter the Pacific—Weather—Towing—Part company with 'Enterprise' and 'Gorgon'—Heavy Gale, driven to the Latitude of Cape Horn—State of Ship—A Spar seen—Damage sustained—Disaster—Loss of Masts—Man overboard—Whales—Recover Life Buoy—State of the Crew—Storm Birds—Incidents Wandering Albatross—Their Capture—Sooty Albatross—Deep Sea Soundings, and Temperature of Water—Loss of Bread from Leakage—Reflections on the Voyage—Tropic Birds—Enter the Tropics—Shape course for Owhyee—Progress—Cross the Equator Rain—Trade Winds—Temperature of Air and Water—Sight of Land—Mona Roa, its height, appearance, and character—Feelings on seeing it—Islands of Mowee and Morotoi—Appearances—Ship

—Oahu—Flying Fish—Arrival of Pilot—Intelligence of our Consort—Anchor in the Roads—H.M.S. 'Swift'—Appearance and Character of Island—Entrance to Harbour—Preparations for Sea—Honolulu, Government, &c.—Missionaries—Their Laws and Influence—Protectorate of Great Britain—Commerce—Supply and Demand for all Articles—Houses, Natives, Appearance, Dress, and Character—Laws existing—Incidents attending Excursions—Character and Appearance of the Island—Legend of its Conquest——Our Crew—Arrival of 'Cockatrice'—Letters and Despatches from England—Completion of Work—Senior Officer's intentions—Effect produced—Climate of Islands. . . 31—60

CHAPTER III.

Departure from Honolulu—Completion of Stores and Provisions, and facilities afforded—Orders of Captain Collinson—His intended Route—Valuable Intelligence received respecting the Winds—Adoption of it and Success which followed—Incidents and Events—Enter the Temperate Zone—Progress and Soundings—Currents—Change of Temperature—Pass the Aleutian Islands, and enter the Kamtschatka Sea—Sea Birds—First Seal seen—Gore's Island, Currents and Temperature—Difficulties of Navigation—Weather—King's Island—Soundings—Pass Behring's Strait—Cross the Arctic Circle—Incidents—Whales—Temperature of Air and Water—Steer for Cape Lisburne—Issue Warm Clothing—Meet the 'Plover'—Unfavourable Report of the Ice—Incidents—Crow's Nest—Cape Lisburne—Birds and Drift-wood—H.M.S. 'Herald'—Non-arrival of 'Enterprise'—Determination to enter the Ice alone—Aspect of the Cape—Object of Visiting it—Signal from 'Herald'—Probable Position of 'Enterprise'—Part company with 'Herald'—Admiralty Orders to keep Company—Proceed to the North—Reflections—Value of Two Ships in Polar Navigation—Weather—Sunset. . . . . 61—80

CHAPTER IV.

Enter the Ice—Its Appearance—Walruses—Progress and Incidents——Currents—Temperature—Approach the Land—Meet 'Plover'—Esquimaux Graves—Point Barrow rounded—Position and Appearance of Ice—Tides and Currents—Aspect of Ice—An Icy Scene—Cruising in the Pack—Difficulties and Incidents—Regain the Coast—Its Difficulties and Dangers—Boats towing—Encounters with the Ice—Reflections—Ice and Water—Character of former—Sunset over Ice—Point Drew—First Interview with Esquimaux—Their Visit to the Ship—Incidents—Barter—Women—Boats—Incidents and Character of Esquimaux—Visits from several Tribes—Approach Point Pitt—Landing—Deposit a Record—Mounds—Ship grounded—Difficulties of our position—Colville River—Jones' Islands—Visit to them—Esquimaux—Interview—Incidents—Thieving, and Visit to the Ship—Means adopted for recording our Visit—Progress—Temperature of Air and Water. . 81—112

CHAPTER V.

Difficulties in working to the North-East—Ship secured to Floe-Ice—Archery—Cast off from Floe—Progress and Incidents—An Island discovered—Point Anxiety—Critical Position—Our Difficulties—Ship on Shore—Means adopted in consequence—Results—Again under Sail and Incidents—Boat capsizes—Loss of 3344lbs. of Meat—Weather—An Ice Scene—The Pack—Our Position and State of the Ice—The Resolution adopted—Fail in effecting our Escape—A Thunder Storm—Rain and Results—Endeavour to regain the Mainland—Towing—Incidents—The Ice—Its Difficulties—Operations—Success attending them—Ship secured to Ice—Appearance—An Ice Scene—The New Island—Its Features and Character——Incidents and Observations—A Bear Track—Whales' Skulls—Ship, her Appearance—Weather—Cast off from Floe—The Ice—Its Aspect—Reflections—Incidents—Progress, Brighter Prospects and Better Results—Hopes of reaching Banks' Land—Reflections—Appearance of Ice—Open Water—Course to the Northward arrested—Soundings—Position—The Pack—Alter Course—Weather—Make the Land—Towing—Results of running into Pack——Solitude of our Position—Stand in for the Land—Tidal Line—The Water—Alluvial Deposition and Results—Islands—Weather and Difficulties of Navigation—'Plover's' Boats—Mackenzie River—Remarks . . . . 113—157

CHAPTER VI.

Weather—Point Warren—Esquimaux—Their Encampment—Appearance of a European—Landing on the Beach—A Grave—Hostile Reception by the Natives—Incidents—Peace established—The Women—Sick Man and Incidents—Appearance of the Men—Their Hut—Consternation produced by the Ship—Results—Flight of the Tribe—Intercourse with the Indians—Fire Water—Discovery of a Button and Results—Reported Murder of a European and a Party on the Coast—Boats seen—Appearance of their Huts——Their Interior—Presents—Provisions—Language—Departure for the Ship—Arrive on Board—Remain off the Point—Reland——Search for the Hut—Results—Construction of Huts—Incidents—Return on Board—Progress—Observations Harrowby Bay—Land at Point Maitland—Deposit a Record—Incidents—Appearance of Land—Natives—Visit to the Shore and Incidents attending it—Return to the Ship—Baillie Islands—Birds . 158—169

CHAPTER VII.

Weather—Revisit the Shore—Incidents—The Coast—Cape Bathurst—Encampment—Land on the Isthmus—Advance to Encampment—Esquimaux—Interview and Incidents—Their Hostile Aspect—Altered Demeanour—Appearance of Men and Women—Incidents

Fire Water—Barter—Despatches—Negotiation for their transmission—Return to the Boat—Presents to the Natives—A Gun—A Thief—Their Rude Behaviour—War Whoop—Difficulty in clearing the Boat—Leave the Shore—Boat Aground—Esquimaux Kayaks—Their Weapons—Mode of using them—Incidents attending our Return—Their Visit to the Ship—Invitation to the Encampment—Departure from Baillie's Islands—Visits from Esquimaux and Incidents—Their Account of other Expeditions—A Visit—Expectation of a Ship with Presents—Their Departure from the Ship—Esquimaux, their Habits, Manners, and Customs. 170—199

CHAPTER VIII.

Departure from Cape Bathurst—Aurora Borealis—Ice—Currents—Franklin Bay—Rain—River Horton—Aspect of Land—A Bear—Refraction—Strange Appearances on Shore—Report of the Ice Mate—The Ice—A Boat despatched to the Shore—Whales and Seals—Cause of Strange Appearances—Volcanic Mounds—Weather—Difficulties—Character of Coast—Incident on Board—The Evening—Ship Beset—Cape Parry—Land discovered to the N.E.—Opinions—Position at Evening—Sunset—Aspect at Morning—Possession of Land—Name bestowed—Its Character and Incidents—Appearance of Headland and Coast—Birds seen—Progress—Incidents—Shape a Course to North-East—Weather—Difficulties—Sight of Land—Hopes and Conjectures—Currents—Temperature—Discovery of Prince Albert's Land—Discovery of Islands—Appearance of Sea—Position—Weather — Ship Beset—Gloomy Evening—Occupation—Change of Prospects—Attempt to force a Passage and Failure—Position—Amusements—Altered Aspect of Ice—Secure to Ground Ice—Sudden Departure—Difficulties—Birds. . . . . 200—228

CHAPTER IX.

Young Ice—Its Formation—Our Position—Barrow's Strait—Opinions respecting the Existence of a Passage—Drifting in the Pack—Incidents and Dangers—Equinoctial Gales—Critical Position of the Ship—Increasing Dangers—Preparations to meet Casualties—Aspect of Ice—Pressure—Continue drifting—Arrangements for abandoning Ship—Assault of the Ice—Hawsers and Life-buoy carried away—Abatement of the Gale—Change of Weather—Temperature—Position—Collisions—Approach Princess Royal Islands—Critical Position—Escape—Conclusions arrived at—Last Day of September—Preparations for Wintering—Parhelion and Parasellenæ—Birds—Early Days of October and Occupation—Ice in Motion—Heavy Pressure—Alteration in Appearance of Ice—Experiments with Gunpowder in blasting—Aurora Borealis—Completion of Winter Preparations—Daily Routine and Exercise—Ice in Motion—Its Aspect—Reflections—Weather. . . . 229—248

CHAPTER X.

Appearance of Weather—Departure from the Ship—Journey across the Ice—Reach Prince Albert's Land—Take Formal Possession of it in the Queen's Name—Ascend the Mountain—Incidents—Appearance of Land and Ice—Our View from its Summit—Existence of a North-West Passage established—Descent—Refreshment—Journey across the Ice arrested—Critical Position—A Night's Adventure—Incidents—Arrival of Relief—Return on Board—Halkett's Boats—Results of the Day—Celebration of taking Possession of Prince Albert's Land—Ship Stationary and Position—Preparations for a Journey to the Northward—Visit Princess Royal Islands and take Possession—Appearance of Ice grounded—Geological Character of Islands. . . . 249—270

CHAPTER XI.

Departure of the Travelling Party—Passage over Rough Ice—Fatigue Party—Their Route and Return—Accident to Sledge—Despatch a Sledge and Party—A Shooting Party—Five Musk Oxen killed—Measures adopted—Animals brought on Board—Quantity of Meat obtained—Return of Captain McClure—Confirmation of the Previous Discovery of the North-West Passage—View from Mount Observation—Parry and Richardson—Points Peel and Russell—Homeward Journey—A Night on the Ice—Reception of the Party—Difficulties and Hardships of the Journey—Food consumed—Pemmican and Oatmeal—Housing in—Ventilation and Warming Ship—Early Days of November—Occupations of the Men—Departure of the Sun—Aspect of Winter—Weather—December—A Fox Hunt—The Solstice—Christmas—A Seal—Weather—Last Day of the Year. . . . . 271—294

CHAPTER XII.

The First Day of 1851—Our Health and Efficiency—Inspection of Crew—Thickness of Ice—Reindeer seen and pursued—Temperature of the Month—Return of the Raven—Re-appearance of the Sun—A Wolf and Incidents—Effects of Sun's Rays on Ice—First Spring Operations—A Fox—A Hare killed—A Bear seen and pursuit—Visit to the Western Land—Baring Island and Incidents—Appearance of Land—Removal of Snow Embankment—Temperature of the Month—Survey of Provisions—Sudden Rise of Temperature—Preparations for Travelling—Despatch of Searching Parties—Their Direction—Importance of Visiting Melville Island—Captain Austin's Expedition—Pursuit of a Bear—Snow Bunting—A Seal killed—Report of Game on the Land—Return of Mr. Wynniatt and his subsequent departure—Shooting Parties—An Incident of Sport—Success in the Chase—A Bear shot—Incidents and Events. 295—325

CHAPTER XIII.

An Unexpected Arrival—Casualties—Results of the Journey—A Bear killed—Strange Discovery—Despatch of a Party—Queen's Birthday—Elucidation of a Mystery—Gulls—A Bear—Discovery of Coal Formation—Return of Travelling Party and Incidents—Esquimaux—A Visit to them—Deer—Rain—Ducks—Return of Captain McClure—Results of Travelling—Intelligence received from Esquimaux—Incidents—Frost-Bite—Bears—Return of Mr. Wynniatt's Party—Results—Necessity of Combined Action—Character of Land—Incidents—Return of Lieutenant Cresswell's Party—Progress of Thaw—State of the Ice—Temperature and Weather. . . . . 326—350

CHAPTER XIV.

State of the Ice—Mosquitoes—Water—Ship Liberated—Incidents—Drifting—The Islands—Our Floe—Make Sail—Position and Difficulties—Critical Situation of Ship—Reach Point Armstrong—Reindeer—Drifting to the Northward—Effects of Gunpowder on Ice—Point Lady Ross—A Fox—Musk Oxen—Weather and Temperature—August—Incidents—Rain—Drifting—Currents—Aspect to the Northward—Position on the 10th—Supposed Appearance of Land—Open Water—Make Sail—Fog—Its Difficulties—Ship Aground—Her Safety—Strange Coincidence—Aspect of the Coast—Conical Hills—Their Formation—Blasting with Gunpowder—Its Effects—Weather—State of the Ice to the Northward—Run off Shore to South-West—Spanker Boom carried away—A Gale—Drifting—Unpleasant Position and Prospects. 351—374

CHAPTER XV.

Departure from Prince of Wales' Strait—Chances of passing through it—Course to the Southward—Round Nelson's Head—Course to the Northward—Character of Coast—Islands discovered and Incidents—Alter Course to E.N.E.—Prospects—Land and Ice—Progress arrested—Dangerous Position—Aspect of Land—Discovery of Wood Hills—Recent and Fossilized Wood—Its Character—Petrifactions—Presence of Iron and Sulphur—Woody Stratification—Bark and Wood discovered in other localities—Geological Causes—Original Character of the Land—Inferences deduced from the Discovery—Critical Position of the Ship—A Bear Shot—Habits of these Animals—Esquimaux Mode of killing them. 375—411

CHAPTER XVI.

Weather and Prospects—Lakes—Fish—A Musk-Ox Hunt and Incidents—State of the Ice—Traces of Esquimaux—The 29th of August—Perilous Position and Miraculous Escape—Incidents—Position on the 30th—Blasting Ice—Preparations for Winter—Collecting Ballast—A Jerfalcon shot—Black Fox seen—Bears—State of the Ice—Sudden Disruption—Drifted off from the Shore

—Beset in the Pack—Operations for our Release—Blasting—Critical Situation—Our Escape—Reach the Shore—Ship's Safety again threatened—State of Ice—Operations by Blasting and Results—Open Water—Incidents—State of Ice. . 412—436

CHAPTER XVII.

Weather—Favourable State of the Ice and Water—Preparations to start—An Opportunity lost and Results—Departure from the Floe—Progress and Retreat—Currents—Ice in Motion—Critical Position—Pressure—Its Effects—Point Colquhoun—Progress and Incidents on the 20th—Drifting—Perilous Drifting—Cape Wrottesley—Position—Cape Austin—Difficulties—Ship secured—Cape Crozier—Prospects—Geological Character of Coast—Inferences—Dangerous Character of the Coast—Progress on the 23rd—Incidents—Weather—An Ice Barrier—Our Passage through it—Aspect of Evening—Ship on Shore—Measures adopted—Their Success—Fortunate Escape—The Night. . . 437—460

CHAPTER XVIII.

Position on 23rd September—Resolution adopted—Enter the Bay of Mercy—Error in doing so—Reasons advanced for entering the Pack—Reflections—Results of our Voyage—A Second North-West Passage discovered—Dismantle Ship—State of the Ice—Reduction of Provisions—Observations on Polar Diet—Necessity of large allowance of Food—State of the Ship—Cold between Decks—Party despatched to the North and their return—State of Ice—Large Expanse of Water seen—Our inability to enter it—Pleasing Intelligence—First Reindeer killed—Evidence of Game on the Land—Remarks on Reindeer . . 461—482

CHAPTER XIX.

The Hunting—Incidents of Sport—Wolves—A Night Adventure—Return of Shooting Parties—Produce of the Chase—Its Salutary Effects—Inspection of the Crew—Weather—Lightning—Change of Temperature—Departure of the Sun—Winter Preparations—Occupations—Arctic Currency—Barometric Changes—Weather—December Gale—Christmas Day . . 483—495

CHAPTER XX

First day of 1852—Health of the Crew—Appearance of Reindeer—One killed—An Incident of Sport and Results—Return of the Sun—Incidents and Events—Absence of three Men—Fears entertained—Their return—Reindeer Hunting—Its Hardships and Difficulties—Sanitary State in April—Adventure with Wolves—Departure of a Party for Melville Island—Incidents—Appearance of Scurvy—Weather—Return of the Party—Their Journey and Results—Disappointment—State of the Ice—State of the Men on their Return—Weather—Results of the Hunting—Appearance of Snow-Geese—Other Birds—Order of their Arrival and Departure . . . . . 496—522

CHAPTER XXI.

Laborious Occupation of the Crew—Its Effects—Thickness of Ice—Birds—Wolves and Reindeer—Incidents of Sport—Red-throated Diver—State of the Ice and Weather—Health of the Crew—General Appearance of Scurvy—Recommendations made to prevent it—Pleasing Intelligence—Two Musk Oxen killed and Incidents—Great Northern Diver shot—Bears—Presence of Birds—Ice reported in Motion—Seals killed—Open Water seen to the Northward—Sorrel and Scurvy Grass—Their Effects—State of Ice—Mercy Bay—Its Aspect—Young Ice formed—Ship Frozen in—Gloomy Prospects—Further reduction of Provisions—Plan proposed for abandoning the Ship—Results likely to follow its adoption—Our Necessities—Cold and Hunger—Its Effects and Incidents—Hunting, its Difficulties—Close of the Year. 523—552

CHAPTER XXII.

The Year 1853—Intensity of the Cold in early months—State of things on Board—Reappearance of the Sun—Preparation for Travelling—Two Wolves shot and Incident—Hares and Lemmings—Their Habits—Party told off—Opinions of their fitness—Increase of Food for Travellers—Its Effects—The Sick List—The First—Death on Board—Unexpected Arrival of Lieutenant Pim—Joyful Intelligence of Relief—Effect produced—Reflections—A Funeral—State of our Crew—Two Deaths occurred—Want of Remedies—Return of Lieutenant Pim—His kindness to us Captain McClure proceeds to Melville Island—Departure of one-half of the Crew—Return of Captain McClure—Results of Journey—State of our Men on arriving at Melville Island—A Survey ordered on Board 'Investigator'—Results—Ship to be abandoned—Preparations—Depôt formed—Abandonment of the 'Investigator'—Journey to Melville Island—Its Difficulties—Incidents—Our Arrival on Board the 'Resolute' and Incidents. 553—582

CHAPTER XXIII.

The 'Resolute'—Intelligence received—Improvement in Health—Sporting Parties—State of the Ice—Drifted off the Land—Release of the Ships—Cruising—Ships beset in young Ice—Drifting—Winter Quarters—Our Disappointment—Death of Mr. Sainsbury—His Funeral—The Winter—The Year 1854—Commencement of the Fifth Year of Arctic Service—Departure of our Crew to Beechey Island—Mode of Travelling and Incidents of the Journey—Ice—Travelling in the Spring—Arrival on Board H.M.S. 'North Star'—Death of Thomas Morgan—Abandonment of 'Resolute' and 'Intrepid'—Intelligence received of 'Enterprise'—A Visit to the 'Investigator'—State in which she was found—Inferences—Incidents—Abandonment of 'Assistance' and 'Pioneer'—Arrivals—Departure from Beechey Island—Incidents—Arrival in England . . . . . 583—596

APPENDIX . . . . . 597—616

INTRODUCTION.

It is not my intention, nor, indeed, do I consider it necessary, to offer any remarks on the Progress of Arctic Exploration and Discovery, in which this Country has at various times been engaged, during a period of three hundred years, in endeavouring to discover a Passage between the Atlantic and Pacific Oceans, which, until 1850, had been sought in vain. History has already done justice to the great and persevering efforts of the earlier Arctic Navigators; and the deeds of daring, skill, and enterprize which characterized the more recent Expeditions, are yet too fresh in the memory of the Nation to call for any observation here. They must ever remain an imperishable record of the prowess and energy of British seamen and marines. It must not, however, be forgotten that the earlier Navigators—our Pioneers in those icy seas—are entitled to share in the honour of the Discovery of a North-West Passage, having

indicated the way, that led *us* to solve the difficult problem.

The efforts so nobly and perseveringly made by this country, in search of Sir John Franklin and his companions, must form one of the brightest pages in our history. Proud may a country feel, on turning to a record of the deeds of heroism and endurance in connection with this unparalleled search, affording as it does unquestionable evidence that the advance of civilization and refinement has produced no enervating influence or deterioration on the character of her sons. Nor, in connection with this search, must I omit to mention the noble and spirited efforts made by our Transatlantic brethren, efforts which have excited in this country so high an appreciation and such grateful feelings.

I must also mention the name of a Lady,* who has elicited the admiration and sympathy of the world for the devotion and constancy she has displayed and the efforts she has made in endeavouring to ascertain the fate of her heroic husband and his brave followers.

It is needless to revert to errors that may have been committed in directing the search, which led to a failure in the object of these Expeditions. For these, we were not responsible — officers and men obeyed orders, and did their duty. That our efforts met with entire approval, we have

* Lady Franklin.

the proud gratification of knowing — our Most Gracious Sovereign having marked Her sense of our services, by bestowing a Decoration on all engaged in Arctic Service from 1819 to 1855.

Deep interest and anxiety were felt, not only in this country, but throughout the civilized world, for the fate of Sir John Franklin and his companions, at the close of 1849, on the return of the Expedition under Sir James C. Ross, in 1849, without discovering any traces of them. The Government then determined on prosecuting the search in an opposite direction, in the hope of meeting with the missing vessels towards the termination of their voyage. An Expedition, therefore, consisting of H.M. Ships 'Enterprize' and 'Investigator,' was immediately fitted out, and ordered to proceed to Behring's Strait, and enter the Polar Sea from the westward. The command was entrusted to Captain Richard Collinson, C.B. That officer hoisted his pendant in the 'Enterprize,' and the command of the 'Investigator' was given to Commander Robert J. Le Mesurier M'Clure. To this ship I was appointed.

These vessels had but recently returned from the Polar Sea, where they had suffered much in their conflicts with the ice. They were now thoroughly repaired, and fitted for further service with all possible dispatch, and on the 18th of December were

commissioned at Woolwich. As they had a seven months' voyage in perspective, it was necessary that they should leave England early in January, so as to ensure reaching the ice in good time. So rapidly did their equipment proceed, that, to the credit of all engaged in it, be it recorded, on the 10th of January, 1850, three weeks only from the date of their commission, both ships were ready for sea.

The perilous nature of the service, to say nothing of its popular and philanthropic character, was quite sufficient to call forth a host of volunteers.

The selection of men for Polar Service is a duty of the greatest import, for on their physical capabilities and moral endowments must depend not only the efficiency of the Expedition, but its safety in the hour of emergency. This duty, therefore, demanded my greatest care and attention. Men, for Arctic Service, should be of a cheerful disposition, free from disease, "without blemish and without spot," inured to the life of a sailor, or, in other words, regular "man-o'-war's men," in age varying from twenty to thirty or thirty-two years, of middle stature, well-proportioned bodies, strong, and active, with a well-developed, capacious chest, sound heart and lungs—organs which, under any circumstances, are the most severely taxed—of stout, muscular limbs, with a light, active gait, and

free from any constitutional or hereditary predisposition to disease. A list of the Officers and crew of the 'Investigator' is subjoined.

Although the above requisites were not all combined in each man, the result has, I think, proved—from the privations and hardships they so long sustained, and the unprecedented circumstance of their number remaining undiminished by death for a period of nearly three years and a half—that they were a most efficient and able body of men, well adapted for the service, on which their powers were so severely tested.

The preserved meats could not be got ready in time to receive them at Woolwich, and we were ordered round to Plymouth to await their arrival from Ireland. They were supplied by the Messrs. Gamble, of Cork, and reflect credit on that firm, both from their excellent quality, and from the dispatch used in their preparation, owing to the short notice they had on taking the contract. We met with considerable losses in this valuable article, but from causes for which the contractors were not responsible. The salt-beef and pork were of the same excellent quality; nevertheless, this department of victualling admits of much improvement.

The clothing, with which we were liberally supplied by Government, was well suited for Arctic Service, and contributed largely to our comfort; but our

experience suggested several improvements which might be advantageously made in future equipments.

On the 10th of January, 1850, we took our departure from Woolwich, and after encountering very boisterous weather in the Channel, reached Plymouth on the morning of the 14th, where we found the preserved meats awaiting our arrival. The utmost dispatch was used in getting them on board, and everything was completed for sailing on the evening of the 19th of January, when the ships were reported ready for sea.

A List of the Officers and Men of H.M.S. 'Investigator,' who Discovered and Made the North-West Passage.

Name.	Rank or Rating.	Remarks.
Robt. J. L. M. McClure	Commander.	
Wm. H. Haswell	Lieutenant.	
Samuel G. Cresswell	Ditto.	
Alex. Armstrong, M.D.	Surgeon.	
Robert J. Wynniatt	Mate.	
Hubert H. Sainsbury	Ditto.	Died on board H.M.S. 'Resolute,' off Cape Cockburn, Nov. 14th, 1853, from Consumption.
Henry Piers	Assistant-Surgeon.	
Stephen Court	Second Master.	
Joseph C. Paine	Clerk in Charge.	
George J. Ford	2nd-Class Carpenter.	
George Kennedy	Acting Boatswain.	
William Newton	Ice-Mate.	
Henry May	Quartermaster.	
Michael Flinn	Ditto.	
George Brown	Ditto.	Rated Quartermaster, Dec. 24th, 1850.
Edward Fawcett	Boatswain's Mate.	
Henry Bluff	Ditto.	
Joseph Facey	Sailmaker.	
Isaac Stubberfield	Ship's Cook.	
John Kerr	Gunner's Mate.	Died April 13th, 1853, on board the 'Investigator,' in the Bay of Mercy, from the effects of Scurvy.
James Williams	Captain of the Hold.	
John Calder	Ditto Forecastle.	
Peter Thompson	Ditto Fore-top.	
Robert Tiffeny	Ditto Main-top.	
James Evans	Caulker.	
Henry Stone	Blacksmith and Armourer.	
Henry Gauen	Carpenter's Mate.	
Cornelius Hulott	Captain's Coxswain.	
Wm. Whitfield	Carpenter's Crew.	
John Wilcox	Paymaster's Steward.	
George L. Milner	Officers' Steward.	
Henry Sugden	Ditto Cook.	
Richard Ross	Able Seaman.	

List of the Officers and Crew of H.M.S. 'Investigator'—(Continued).

Name.	Rank or Rating.	Remarks.
James McDonald	Able Seaman.	
Wm. Batten	Ditto.	
George Gibbs	Ditto.	Died on board the 'North Star,' at Beechy Island, May 22nd, 1854, from the effects of Scurvy and Scrofula.
Thomas Morgan.	Ditto.	
John Davies	Ditto.	
Samuel Mackenzie	Ditto.	
Charles Steel	Ditto.	
David Harris.	Ditto.	Died on board the 'Investigator,' in the Bay of Mercy, April 11th, 1854, from the effects of Scurvy.
John Ames	Ditto.	
Charles Anderson	Ditto.	
Fredk. Taylor	Ditto.	
James Nelson	Ditto.	
William Carroll	Ditto.	
George Olley	Ditto.	
Mark Bradbury	Ditto.	
John Ramsay	Ditto.	Died on board the 'Investigator,' in the Bay of Mercy, April 6th, 1854, from the effects of Scurvy.
John Boyle	Ditto.	
Thomas Toy	Ditto.	
Samuel Bounsall	Ditto.	
Ellis Griffiths.	Ditto.	
John Keefe	Ditto.	
Mark Griffiths	Ditto.	
Thos. S. Carmichael	Ditto.	
Samuel Relfe	Ditto.	
John Woon	Serjeant Royal Marines.	Promoted to be Colour-Serjeant.
John B. Farquharson	Corporal Ditto.	Promoted to be Serjeant.
George Parfitt	Private Ditto.	
Elias Bow.	Private Ditto.	
James Biggs	Private Ditto.	
Thomas Bancroft	Private Ditto.	
Thomas King.	Private Ditto.	
James Saunders	Private Ditto.	
John A. Meirtsching	Esquimaux Interpreter.	

Murchison Str.
Nº Lincoln
Jones Sound
Melville B.
NORTH DEVON
LANCASTER SOUND
PARRY
SOUND
Peel Sound
BAFFIN
BAY
COCKBURN LAND
GULF OF BOOTHIA
BOOTHIA FELIX
VICTORIA STRAIT
VICTORIA LAND
PRINCE
ERT LAND
Arctic Circle
FOX
CHANNEL
DAVIS
STRAIT

PERSONAL NARRATIVE

OF

THE DISCOVERY

OF

THE NORTH-WEST PASSAGE.

CHAPTER I.

Departure from England—Weather—First Disaster at Sea—Our Crew—Heavy Gale—Ship Leaky—Results—Part Company with our Consort—Change of Weather—Means adopted for Drying Ship—Cause of Leakage—Results of our hasty Departure from England—Lime-juice—Enter the Tropics—Temperature of Air and Decks—Crowded State and Results—Evenings in the Tropics—The Tropic Bird—Flying Fish—Their Flight, &c.—Change of Weather—Stormy Petrel—Rain and Incidents—Thunder—Porpoises—Bathing—Strange Sail—Cross the Equator—Ships—Their suspicious appearauce—Leave the Tropics—Temperate Zone—Sunset—Weather—Albatross and other Birds—Character of Winds on either side of Equator—Discolouration of Water—South-west Gale—Incidents—South America—Moth, Flight and Capture—Change of Weather, &c.—A Whale—Progress—Temperature and Soundings—Birds—Double Pay commences—Land—

Cape Virgins—Enter Straits of Magellan—Guanacos—Patagonia and Terra del Fuego—Appearances of Land—Meet H.M.S. 'Gorgon'—Another Steamer—Intelligence of 'Enterprise'—Taken in Tow—Sight a Wreck—The Coast—Patagonians—Fuegian Coast—Temperature—Port Famine—Altered Aspect of Land—Fortescue Bay—Meet our Consort and Incidents.

On Sunday morning, the 20th of January, 1850, Her Majesty's Ships 'Enterprize' and 'Investigator,' stored, provisioned, and fully equipped for three years service in the Arctic regions, weighed anchor in Plymouth Sound, and with a fair, fresh breeze from the East South East, proceeded to sea, steering a course West by South. The ships had previously waited for a few minutes the arrival of several boats, that were making all speed towards us, and we had the gratification of receiving our letters, the last communication we were destined to have with the civilized world for many a long day. As the western extremity of the breakwater was rounded, the ships of war at anchor in the Sound dipped their snow-white ensigns of St. George, and hoisted the signal of "Success and Farewell" to cheer us on our way. With the aid of a fair wind and a crowd of canvas, the white cliffs of merry England gradually faded from our view, and as night closed in, and the shades of evening fell, the land of the brave and free was no longer visible. With stout hearts and in high spirits we thus bade adieu to our

country, and with a strange, instinctive feeling that our cruize would prove an eventful one, there appeared amongst all a determination, that whatever human efforts could achieve to promote the success of the philanthropic service on which we were employed, would not be wanting, when the time arrived, for commencing operations in the icy regions of the North.

For the next few days the weather became thick, foggy, and otherwise unfavourable, rendering it necessary to fire signal guns at intervals during the day, and rockets at night, to keep up with the 'Enterprize,' as she maintained a decided superiority over us in sailing.

On the morning of the 24th, when about 140 miles from land, the weather having become still more boisterous, and when under a press of sail in the hope of overtaking our Consort—of whom we had lost sight during the prevalence of a fog—we encountered our first disaster, a squall having carried away several spars, including fore-topmast, fore and main-top-gallant and royal masts, flying-jib-boom, and sprung the topsail-yard—thus rendering us for a time a partial wreck, and, as a natural consequence, in a state of great disorder and confusion. As morning advanced and the fog partially cleared away, the 'Enterprize' hove in sight, bore down as we supposed to our assistance, wore under our lee quarter, and kept company for the remainder of the

day, but made no communication with us by signal or otherwise. Indeed, had she hoisted the immortal Nelsonian signal, substituting "ship" for "man," that "England expects every *ship* to do its duty," we could not have had a more practical illustration of it. Throughout the day all were employed in clearing away the wreck, and towards evening we had retrieved our disaster, and were gratified to see the ship once more under canvas.

This was the first opportunity we had of judging of the *matériel* of which our crew was composed, and the zeal, activity, and fine seaman-like qualities which they displayed on this occasion, fully justified all the anticipations we had formed of as fine a ship's company as ever left England.

The tempestuous weather which set in on the 25th, blowing a south-west gale, with rain and heavy squalls, caused the ship to strain much, and she consequently became leaky, making from fifteen to twenty inches of water daily in the hold; thus adding considerably to the discomfort and confusion previously created, the remedying which still continued to occupy our crew. On the night of the 26th we lost sight of our Consort during a squall, and it was not until daylight on the morning of the 31st that she became again visible. She, like ourselves, had been struggling with adversity since we parted company. The gale continued to rage with unmitigated fury, and a heavy sea running with all the colossal force

and magnitude characteristic of the Atlantic Ocean, the incessant pitching and rolling strained the ship so much, that the leakage increased, rendering it necessary to work daily at the pumps. The water likewise streamed through the ship's side and upper works to such a degree, that our cabins had at times several inches of water surging to and fro, which, coupled with her extremely crowded state both above and between decks with stores and provisions, the necessity of having the hatches frequently battened down, and the impure atmosphere thus generated below, established a state of things by no means desirable, and led us ardently to hope for a change.

On the morning of the 2nd of February we finally lost sight of our Consort. The weather having, at length, assumed a more propitious aspect, the wind, abated in force, had become more westerly, she made all plain sail and stood on her course to the south-west. We also did the same, but despite our best efforts could not keep up with her. However, we were in some degree consoled by seeing H.M.S. 'Investigator' once more under full sail, with a fine favouring gale, steering her true course to the southward, and the misery and discomfort we had lately experienced were soon forgotten under the exhilarating influence of this auspicious change in the elements.

The hatches were removed, a free current of air

admitted between decks, Sylvester's stove for heating the ship was lighted, and other means adopted to dry the decks throughout, after their late partial inundation, and all the evil results of the recent gales were thus remedied as far as it lay in our power then to do so.

We failed to discover the source of the leaking, but attributed it chiefly to the service on which the ship had been but recently employed in the Polar regions; the great pressure and straining to which she was then subject from the ice would readily account for it. We had her sides and upper works recaulked as soon as the weather admitted, with good results.

The continuous fine weather which then set in, enabled us to direct our attention to the re-stowing of the holds, and putting things generally in order, from the great state of confusion they were in on leaving England, owing to the short period allotted to us for fitting out, and the hasty way in which everything was put on board from want of time—fears having been entertained that the season would be too far advanced for commencing operations in the North, were we not to leave England before the middle of January.

On the 13th February, the ship's company were placed on a daily allowance of lime juice in accordance with the regulations of the Naval service; but owing to the special character of the service on which we were employed, double quantity was issued, viz.: one ounce

daily instead of half an ounce; the latter, the usual allowance issued in the Navy. As great care was taken to procure for us lime juice of the very best quality (some complaints having been made of that supplied to a recent expedition) we were furnished with two kinds, one of which was prepared with a tenth part of brandy, and the other, the simple acid boiled and containing no spirit. It was intimated to me by the then Director-General of the Medical Department of the Navy, that I should be called on to report on the relative merits of the two kinds of acid, and their efficacy as antiscorbutic agents on my return to this country. It, therefore, became necessary to adopt means, whereby I might be enabled to arrive at results as accurate as it was in my power to obtain. In furtherance of this object, I therefore represented the necessity of each half of the crew partaking of one preparation, and it was determined that it should be mixed in separate tubs, where each man should drink his allowance in presence of an officer.

The weather continued generally fine, wind variable, chiefly east and south-east, with a gradually increasing temperature, not only in the air, but also in the sea-water. We had on several occasions, in obedience to our orders, thrown overboard from time to time a cask or bottle containing a scroll with the position of the ship, &c., and this practice was strictly observed throughout our long voyage, until we reached the confines of the ice.

On Sunday morning the 17th February, we crossed the northern limit of the Tropic of Cancer, in long. 26° 30′ W., and at noon, were in lat. 22° 10′ N.

We had for some days previous been in expectation of meeting with the North-easterly Trade wind, but it was not until the 19th February that we first felt its cheering influence, its advent having been preceded by calms, variable winds and rain. We had then reached the lat. 18° 4′ N., long. 26° 57′ W., and the morning being fresh and fair, with a curling white sea following in our wake, sparkling in the rays of a bright Tropical sun, could not but produce an exhilarating effect on the minds of all, as we felt we had now completed the first stage on our journey.

As we continued to decrease our latitude in our southerly progress, the heat became daily more oppressive, temperature varying from 76° to 80° F., but between decks 5° higher. We were still occupied in clearing and re-stowing the holds, the foul emanations from which, arising from the damp, confined air, created by the extremely crowded state of the decks, were now being gradually dissipated, as heat and light were admitted to exercise their salutary influence in removing a great cause of unhealthiness and discomfort.

Nothing can surpass the feeling of quiet, indeed I may say luxurious enjoyment, however monotonous it may be, which one experiences after sunset in Tropical latitudes: for, exhausted more or less with

the oppressive heat of the day, the sun's departure is succeeded by a delightfully cool breeze, most grateful to one's feelings, and refreshing in its influence, which generally continues throughout the night, and gradually dies away at sunrise. It then becomes variable in force throughout the day, freshens a little after noon, but is deprived of its delicious coolness, until the close of day restores it to us again. The passive enjoyment of these delightful evenings was much enhanced by a lovely moon, shining with increased brightness in a cloudless sky, and tinging with her silvery reflection, the pretty, undulating surface of a placid sea, through which we continued steadily to wend our way.

On the 22nd of February, in lat. 12° 26′ N., we were favoured with the first appearance of the beautiful Tropic Bird (*Phæton Candidus*) which hovered for some time about the ship, as if to welcome us to the regions of his dwelling, but they are generally met with much further to the northward near the limit of the Tropic. The Flying Fish (*Exocitus Volitans*) those beautiful little denizens of Tropical seas had lately been very abundant; their flight through the air is rapid but short, describing a graceful curve in their course, and falling in the water from an apparent inability to continue on the wing. The height of the curve formed does not appear to exceed a few feet; some had flown and were caught in the main chains, which were only four feet out of water. They are generally pursued by

the Bonito (*Thynnus Vulgaris*) or some other equally ferocious enemy in the sea; and the Frigate Bird (*Fregata Aquila*) in the air—thus affording small chance of escape. The latter in the pursuit of their prey, came close to the ship, and with wonderful dexterity and quickness, picked up the object of their chase without being arrested in their course: occasionally seizing them in their flight, and at other times barely touching the surface of the water, as the beautiful little fish emerged from it in their short but fatal aerial journey. The effect produced in their flight by the silvery reflection of the sun's rays from their delicately formed wings, is extremely beautiful, and one of those compensating sights that repay a visit to the Tropics.

On the 26th of February, in lat. 4° 21′ N., long. 24° 15′ W., we lost the north-easterly Trade wind, which was succeeded by calms and light variable winds chiefly from the southward. The barometer had previously foretold the change, and the appearance of the Stormy Petrel (*Procellaria Pelagica*) or Mother Carey's Chicken, confirmed it in the minds of sailors and led them to expect what they denominate "the other Trade," meaning thereby the south-east. The sky from its previous lovely, cloudless aspect, assumed a dark lowering appearance, the air became close and oppressive, temperature 85°, and the southern horizon afforded every indication of coming rain. In the absence of wind our sails flapped sluggishly against the masts, and our progress through the water had become

quite arrested. Presently water descended in torrents with its characteristic tropical force. It was really amusing to see all hands, officers and men busily engaged with every available utensil, exercising all their ingenuity to make the most of their opportunity. The rain did not continue more than ten minutes, and in much less time we had succeeded in obtaining a good supply. Immediately afterwards all hands were piped to wash clothes. The subsequent change in the atmosphere was most genial to our feelings—it had become cooler; although the temperature only fell 1°, yet we were wonderfully refreshed, and a light breeze springing up from the south-east, the 'Investigator,' previously becalmed, was again under the influence of her canvas. Thunder was heard after the rain had ceased, and lightning was but very faintly visible in consequence of the dazzling brightness of the sun which now shone forth with surpassing splendour. Porpoises made their appearance in great shoals, and the surface of the sea was still further ornamented by the beautiful iridescent tints reflected from numbers of the Portuguese Man-of-War (*Physalia Pelagica*) as if they, too, had felt the influence of the bounteous shower.

The weather for the next few days assumed a character ever variable—thunder, lightning and rain occasionally with light winds and frequent calms; we generally took advantage of the latter to bathe, but the presence of sharks, rendered some precautions

necessary for our safety, and a sail was accordingly rigged from the swinging boom, and suspended in the water sufficiently deep to allow of a good and safe bath.

On the 2nd of March, in lat. 2° 35′ N., long. 24° 2′ W., the south-east Trade wind became fully established, and we were gladdened by the sight of a strange sail (the first seen since leaving England) which hove in sight, but at too great a distance for any communication. On the following day we were still further favoured by two strange sail, one of which subsequently hoisted the colours of one of the Hanse Towns, and their presence, contributed largely to enliven the dull unvarying aspect of all around. As we approached the Equator, the heat had become very oppressive, temperature from 80° to 85° and between decks several degrees higher—in the Sick Bay as high as 94° caused from the circumstances I have previously mentioned, preventing free ventilation.

At noon, on the 5th, we crossed the Equator in lat. 28° 6′ W.; and, as the breeze had freshened considerably during the night, it had become somewhat cooler. Temperature of air fell to 81°, and that of sea-water to 82°, with a density on examination of 1027, and much more saline to the taste, as it was likewise of higher specific gravity than I found it to be from my observations in the higher extra-tropical latitudes through which we had passed.

The usual customs were observed on the occasion

of crossing the Line, which are much too absurd and ridiculous for narration.

Our progress for the next few days was unmarked by any feature of interest. The sight of an occasional sail, and an increase of temperature, which rose to 86°, as the sun became vertical in his course to the northward on the 4th, in lat. 4° 47′ S., are the only events to be recorded.

As we reached the latitude of Rio Janeiro, numerous vessels crossed our path, with some of which we exchanged colours. One or two of them presented a very suspicious appearance; and from their build, rig, and being without cargo, opinion was unanimous in pronouncing them slavers. They glided swiftly through the water, steering a course for the coast of Africa. The excitement of watching their progress was a very acceptable interruption to the ordinary proceedings of the day.

As we approached the limit of the Southern Tropic (Capricorn), which we crossed on the 19th of March, in long. 36° W., the weather assumed an unsettled appearance; and a steady fall in the barometers foretold a change. The temperature had decreased to 79°, which proved particularly pleasant, after the intensity of the equatorial heat to which we had lately been subject. I have seldom witnessed a more beautiful sunset than that which ushered us into the Temperate Zone of the Southern hemisphere. The sun diffused the gorgeous effulgence of his rays through

a mass of dense clouds that hung heavily on the western horizon, producing the most brilliant and varied tints of colouring it is possible to conceive. As we viewed this splendid spectacle, we gladly bade adieu for a time to the regions of the Torrid Zone.

For the next few days the state of the weather was fully confirmatory of previous indications. Occasional squalls with rain, thunder and lightning, were present, and the storm birds made their appearance in considerable numbers. On the 29th, when in lat. 35° S., we first saw the Wandering Albatross, (*Diomedea Exulans*), the Cape Pigeon (*Procellaria Capensis*), and Shearwater (*Puffinus Major*), having visited us two days previously. The wind, at the same time, veered gradually round to the northward, and finally north-west, from whence it blew with the force of a gale, and with a great increase to our speed, being directly fair for us. We averaged upwards of seven and a half knots, which we considered wonderful performance for the 'Investigator.'

These strong northerly winds we found very different in the southern hemisphere from the general effects experienced by their presence in the Northern. They have the same character generally as the southerly winds in the northern hemisphere from the great change they undergo in their course through the Tropics. During their prevalence, the atmosphere becomes moist, warm and oppressive,

conveying the peculiar sensations experienced from southerly winds in our own climate. The barometers become depressed, the temperature elevated, and heavy dews are deposited at night; while the southerly winds, coming from the Antarctic Ocean, have an effect precisely the opposite; are cool, dry and invigorating, and a rise in the barometer with a fall in the thermometer invariably foretel their coming.

On the 30th of March, we were off the entrance to the River Plate in long. 50° 12′ W., as was evidenced from the altered appearance of the water, its deep blue colour having been exchanged for the peculiar greenish, muddy hue, caused by the admixture of fresh water. Its density had decreased to 1023, and we ascertained at the same time, that we had a current setting to the southward, in our favour, at the rate of twenty miles per day.

On Sunday, the 31st, we had reached the latitude of 49° 9′ S., long. 52° 40′ W., and were steering a course for Cape Virgins, the north-eastern extreme of the Straits of Magellan, which then bore S. 42 W. distant 979 miles. The morning was ushered in with a dense, hazy atmosphere, occasional rain, and a heavy sea running. The general aspect betokened a change of wind; and at 11 A.M., the ship was suddenly taken aback by a squall from the south-west. We immediately shortened sail, sent the royal masts on deck, secured the boats, and made every preparation for a heavy gale from the south-west, which obliged

us to steer several points out of our course. Towards evening, the gale gradually increasing in force, with every indication of a wild tempestuous night, the ship was "hove to" under close-reefed main-topsail, and her head to the north-west, making from five to six points lee way in an hour, with a very heavy sea running from the southward. Previous to the change, the barometers fell; but when the wind finally settled into the south-west, they each gradually rose, viz., Marine barometer, Aneroid, and Sympiesometer. The thermometer fell eight degrees; sea-water underwent a like reduction; and the wind carried with it all that bracing, invigorating influence which never fails to accompany a southerly wind in the southern hemisphere.

The birds which had been about us for some days, became more numerous, apparently revelling in wilder enjoyment with the increasing gale. I could not but admire the truly noble appearance presented by the Wandering Albatross, as he soared aloft with marvellous ease, dignity, and grandeur, in defiance of the fury of the blast, occasionally descending with electric rapidity, and gracefully alighting on the white crest of a mountain billow, was borne majestically along on the foaming bosom of the sea. The Stormy Petrels and Shearwater appeared wonderfully excited, and much more rapid in their flight than I had hitherto observed them; evidently delighting in the boisterous fury of the elements, then so mercilessly assailing us,

as the towering seas, in rapid succession, broke with terrific force on our devoted ship, now struggling for every inch of ground in the fierce conflict, but in which, despite of all our efforts, she was driven far to leeward of her true course.

At the onset of the gale one of the Lepidoptera flew on board, a large species of the South American moth, which was secured and added to my collection. How a creature so delicate in its structure, and so ill adapted for a flight of some three or four hundred miles from land, could have reached us even under the most favourable circumstances, it appears difficult to conceive. Night closed in with heavy rain, thunder and lightning, and presented an appearance as wild and tempestuous as the most vivid fancy could pourtray. On the following morning, April 1st, there was no mitigation in the force of the gale, which continued to rage with unabated fury, the ship proving herself an admirable seaboat. We had made much lee way, and upwards of a degree of Northing, so that we had lost ground considerably since the previous day at noon. The clouds had assumed the *circo-cumuli* and *strati-cumuli* character, having a white hardened appearance, apparently of dense structure, and ascending in their course, from the haze on the southern horizon contributing to their formation; and appeared to foretell a change for the better. The air was cold, clear, and invigorating, which together with the sea-water had fallen two degrees in twenty-four

hours, and the barometers were steadily in the ascendant. At noon, we found our position to be in lat. 38° 4′. S. long. 52° 1′ W., having thus lost nearly two degrees since the commencement of the tempest. Towards evening the gale had evidently diminished in force, and throughout the night continued steadily to moderate. On the morning of the 2nd, it had nearly subsided, but a heavy sea still remained to remind us of the past, rolling sluggishly along from the southward, which rendered the ship very uneasy. The storm birds had nearly deserted us, (a favourable indication of the weather) and those that remained appeared evidently much more sluggish in their flight.

On the 3rd, the wind had gradually come round to the northward, which enabled us to shape a course once more for Cape Virgins, then S. 40°, W. 1075 miles distant, but our progress was much retarded by a strong current against us from the south-west. With the change of wind, the barometer and thermometer had undergone a corresponding change of depression and elevation; sea-water likewise became more elevated in temperature. We picked up several pieces of sea-weed (*Algæ*) and found it beautifully studded with groups of the "*Cirrhopoda*," young but healthy; the pedicle by which they were attached quite clear and gelatinous in appearance.

Several Whales (*Physeter Macrocephalus*) were observed at some distance, going to the southward; they

rather enlivened the dulness of all around, as they disturbed the surface of the now tranquil sea, with their huge cawdal fin, and the picturesque jets of water, which they spouted into the air, as they sluggishly pursued their onward course. We also saw a small butterfly fluttering about the ship for some time, but failed to secure him, as a victim to science.

Our progress to the southward, notwithstanding the fair wind with which we were favoured, was slow, owing to the existence of a strong current against us, the power of which was, however, fortunately antagonized in the course of thirty-six hours by the continuance of the northerly winds that blew with variable force, attended by the deposition of heavy dew at night, and all the other characteristics I have previously alluded to. On the 5th of April, in lat. 41°, S., long. 54° 35′ W., the deep sea lead, with a self-registering thermometer attached, was sent down to the depth of 150 fathoms, and no soundings obtained: the temperature of the water was found to be 40°, and at the surface 59°, with a density of 1,025. The weather continued changeable, occasional squalls with rain, thunder and lightning, but the wind, fortunately, was for the most part fair; and as we steadily increased our latitude, we experienced a daily diminution of temperature.

On the 9th, we were afforded the pleasing evidence of our gradual approach to the land, although Cape Virgins was still 379 miles distant, having obtained

soundings in sixty fathoms fine sand, for the first time sea-weed and drift wood were likewise met with in considerable quantities. Gulls and Albatrosses again made their appearance, accompanied by representatives of all the Petrel family. Although the weather was wild and unsettled, it was less so than on former occasions when these birds were about us; our guns were consequently in requisition, and although our success was not great, we managed to procure a few specimens by firing as they flew over the ship, so that they fell on board. Trifling as these events were, they proved a most agreeable interruption to the routine of the day, and imparted, for a time, a degree of pleasant excitement, of which we heartily wished a daily repetition. When one of the Cape Pigeons, then the most numerous, had been shot and fell in the water, the rest suddenly collected around it, and commenced pecking at its yet scarce lifeless body. These birds generally approached the ship more closely than any others, with the exception of the little Storm Petrel, which with rapid, swallow like course, darted closely and fearlessly about the vessel.

On the 12th, we had reached within 200 miles of Cape Virgins, the weather had become cold and foggy, temperature had fallen to 49° and sea-water 47°; but we continued to make good progress, and sounded daily in water varying from 60 to 70 fathoms. The number of birds continued on the increase, and we were

more fortunate in our sport than usual, having shot a fine specimen of the Magellanic Swan, (*Cygnus Anatoides*) a well known inhabitant of these latitudes, together with the Sheathbill (*Chionis Alba*) a bird frequently met with, at a great distance from land, and remarkable for the whiteness and purity of its plumage, as well as forming from its habits, the connecting link between the wading and flying birds (*Grallæ* and *Passerinæ*.)

At noon on the 14th, having reached within ninety-one miles of the entrance of the Straits of Magellan, and in long. 67° 57′, W. we became from this date entitled to *double pay*, in accordance with the orders of the Admiralty, that it should commence on attaining the meridian of Cape Horn, which we had then reached. The weather had become still colder and more foggy, as to lead us to suppose we might be in the vicinity of some masses of ice drifting from the Antarctic Ocean. As evening advanced, we were anxiously looking out for any appearance of land; but the sun took his departure without disclosing it to our view.

It was therefore considered judicious to shorten sail, and alter course to West, the direction of the land, and stand in under easy sail, to await for daylight.

At six o'clock on the morning of the 15th, to our great joy, we observed the land, the first we had seen since leaving England twelve weeks before, and

the long and anxiously looked-for Cape Virgins, the south-eastern extremity of Patagonia, with its fine bold, and well-defined outline and white cliffs, opened to our view as daylight made its appearance, and at 8 A.M. we had fairly entered the Strait of Magellan. Unfortunately, however, we encountered a foul wind from the south-west, and for the remainder of the day continued tacking from the Patagonian shore to the opposite land of Terra del Fuega alternately.

The general aspect of the land on the Patagonian or northern side of the Strait, much resembles the Downs of the south coast of England; the headlands are bold, prominent and of considerable elevation, with numerous indentations on the coast line, skirted here and there by a fine sandy beach. We could observe from the ship immense herds of the Guanaco, or South American Llama (*Anchenia Llacma*) grazing on the heights, or coursing along the beach; they appeared quite the size of red deer, when viewed through a telescope; but we were too distant to be able to make more accurate observation—their numbers, however, astonished us. Birds were likewise congregated on the beach in great abundance—the towering outline of the Emeu (*Rhea Americana*) stood forth in bold relief amongst myriads of the feathered tribe that surrounded them. The majority appeared, from their plumage and general character, to belong chiefly to that family with which we had been

so long familiar (*Palmipides*) and that had afforded us, on our long cruise, some sport and much cheerful excitement.

We could not discern any trace of habitation, or of the remarkable inhabitants of this part of the world, and the feeling of evident security, which the Guanaco, an animal remarkable for its shyness and timidity, appeared to experience, and collected in vast herds, led us to suppose that they were far removed from the haunts of man, and but seldom disturbed by travellers.

The coast of Terra del Fuega, in this part of the Strait, appeared in its outline somewhat similar to that of Patagonia, but we did not approach sufficiently near to make accurate observations.

Early on the following morning, the 16th, at 3 A.M., the strength of the tide setting to the eastward, and adverse winds, compelled us to anchor off Cape Possession.

At 7:30, we were again under weigh, and took advantage of the first turn of tide setting to the westward, soon after which we observed a steamer at anchor in Possession Bay; and much to our satisfaction exchanged numbers with Her Majesty's steam-sloop 'Gorgon,' awaiting our arrival, to lend us all possible assistance in our passage through the Strait. She had been dispatched from Valparaiso especially for this purpose by the Admiral, on receipt of orders from the Admiralty—a wise measure, as the passage, through

the Strait, by such a ship as ours could not otherwise have been undertaken with safety. She had previously towed the 'Enterprise' some distance, and returned for the 'Investigator.'

After communicating by signal with 'Gorgon,' we stood on, when she immediately lighted fires and made all preparations to follow. Soon afterwards another steamer was observed following in our wake, and having closed with us, much sooner than we expected from her great speed, she proved to be the "New World" of New York, bound for Valparaiso and California, last from Rio Janeiro, and as we were informed only *ten days out*—an announcement we received for as much as it was worth, and with much amusement. She was freighted with a cargo of adventurers, about as wild and motley looking a set of fellows as I ever saw, headed by a captain worthy to be the leader of such a band; after a verbal interchange of compliments, she proceeded on her voyage at a rapid rate, carrying American colours.

The 'Gorgon' closed with us, about three o'clock, soon after which the tide having turned, she took us in tow, and proceeded onwards at a speed from five to six knots an hour. From her we learned of the safe arrival of our consort 'Enterprise,' six days before, and that she was waiting our arrival at a more distant part of the Strait. On passing through the first narrows, as they are called from the proximity of land on either side, we observed on Point Barranca

the wreck of a vessel, high and dry on the beach, and a tent pitched a few yards distant, both of which had been deserted. We were sufficiently close to see the interior of the tent, but no sign of any of the crew of the ill-fated ship. The existence of the tent, and the ship not having the appearance of being broken up in hull, afforded pretty strong evidence that she had not been visited by the natives.

The appearance of the coast did not differ materially in its general character, from that before mentioned—it was well defined by an outline of rich-looking land; its uniformity interrupted occasionally by a few conical shaped hills, of volcanic origin, intervening between which and the sea, a narrow strip of soil, presenting a low undulating surface, affording apparently, the finest pasturage to the herds of Guanacos which we saw grazing on it; but they were not near so numerous as we had seen elsewhere. As we advanced towards that part of the Strait, marked on the chart Indian Cove, we observed a dense volume of smoke ascending between a low range of hills; this was found to proceed from a Patagonian encampment, as seen from the masthead, and around which the natives were sitting. Soon afterwards, but further on, we observed the smoke of a fire kindled on the beach—the usual sign of a desire on the part of the natives to communicate for the purpose of barter, and with the aid of our glasses we discovered four horsemen and a few

others on foot, advancing towards an encampment, stopping occasionally to watch our movements, and ascertain any sign on our part of communicating. The distance was too great to enable us to judge accurately of their stature, but they certainly appeared much above the average size of ordinary men. The advance of night did not allow us to continue our observations, as we still kept on our course, and remained but little enlightened on the much talked of subject of Patagonian stature; nor were we subsequently afforded an opportunity of solving the problem.

We observed the outline of the Fuegian coast, in this part of the Strait much more irregular in appearance and character, and the soil which is sandy, more arid, and barren than elsewhere; on it we saw a few Guanacos, grazing on a pasturage, evidently much inferior to that of the opposite coast, but no trace of habitation, or inhabitants whatever.

The novel excitement of the day was most acceptable to us all. The temperature had assumed that of an English winter, having fallen to 40°, but the presence of sunshine rendered the day pleasant and otherwise agreeable.

We still proceeded in tow of 'Gorgon' during the night of the 16th, and anchored at an early hour on the following morning off Port Famine, a small Chilian settlement, inhabited by a Governor and a few soldiers. The few houses of the settlement were

built of wood, and close to each other, surrounded by a stockade, very ancient looking and partially dilapidated, being the original houses of the old Spanish settlement. The place is well deserving the name it bears, from its bleak desolate aspect; although situated on an eminence gradually inclining from the sea, it presents every external feature of poverty and starvation.

We communicated with a view of procuring fresh provisions and vegetables, if possible, for our crew; and found that the governor (Captain Dunn of the Chilian service) was an Irishman. We were surprised on hearing him address us in his native language, which had lost nothing of *its purity and richness* from his long expatriation; but we had evidently come to the wrong place for provisions, for not one particle could Port Famine afford us. We here learned, however, that 'Enterprise' had passed two days before. At 9 A.M. we were again under weigh in tow of steamer. The general aspect of the country from this point was quite different from what we had previously seen; it presented an appearance wild, bold and picturesque to a degree—the mountains rose almost precipitously from the waters' edge to a height varying from 1000 to 3000 feet, wooded towards the base; but the trees (pine) appeared small and stunted in growth. They had already assumed their wintry garb of snow, imparting a dreary, cheerless character to all around.

The course of the cataracts, produced from the thawing of the snow in summer, is well marked on the rugged face of the mountain, and the well defined channels, afford ample evidence of what must then be the force and grandeur they impart to the picturesque beauty of the scene.

At three o'clock in the afternoon, as we still proceeded in tow, and as we approached the large and commodious anchorage of Fortescue Bay, we there saw to our great delight, our long lost Consort, quietly at anchor, in expectation of our arrival. Some of us immediately repaired on board, and after a mutual interchange, and narration of incidents and adventures during our long cruise, we found that both ships had crossed the Line on the same day, and within thirty miles of each other. Her passage was otherwise much like our own, and we were happy to find all in good health and spirits like ourselves. They also informed us, that had we not made our appearance that evening, the senior officer, (Captain Collinson), intended to have gone to sea on the following morning, and after reaching the Pacific, to have sent 'Gorgon' back to assist us through the Straits—so that we had just arrived in time to rejoin our Consort.

We immediately commenced procuring a supply of water, and made every other preparation to sail at daylight on the following morning; all hands were, consequently, employed the entire night with their usual activity and zeal. The 'Enterprise' had luckily obtained a

few small bullocks, after great difficulty, at a small Chilian settlement on Sandy Cove: one half of these were immediately sent on board to us, with a good supply of fresh fish, which their labour and industry had, by the aid of nets, succeeded in catching in the bay, and both were very acceptable to us. I regretted, however, that no vegetable food could be procured, the want of which was much felt after a twelve weeks' voyage.

We passed at anchor in the bay, three American vessels, all bound to California; notwithstanding repeated efforts to get to the westward, they had been detained here no less a period than three months, owing to the prevalence of adverse winds. We therefore had good reason to feel thankful, that wisdom and foresight had placed a steamer at our disposal.

CHAPTER II.

Preparations for leaving the Strait—Medical Survey—Specimens obtained—Departure—Aspect of the land—Fuegians—Their appearance, &c.—Enter the Pacific—Weather—Towing—Part company with 'Enterprise' and 'Gorgon'—Heavy Gale, driven to the latitude of Cape Horn—State of Ship—A Spar seen—Damage sustained—Disaster—Loss of Masts—Man overboard—Whales—Recover Life-buoy—State of the Crew—Storm Birds—Incidents—Wandering Albatross—Their capture—Sooty Albatross—Deep Sea Soundings, and Temperature of Water—Loss of Bread from leakage—Reflections on the Voyage—Tropic Birds—Enter the Tropics—Shape course for Owhyee—Progress—Cross the Equator—Rain—Trade Winds—Temperature of Air and Water—Sight of Land—Mona Roa, its height, appearance, character, &c.—Feelings on seeing it—Islands of Mowee and Morotoi—Appearances, &c.—Ship—Oahu—Flying Fish—Arrival of Pilot—Intelligence of our Consort—Anchor in the Roads—H.M.S. 'Swift'—Appearance and Character of Island—Entrance to Harbour—Preparations for Sea—Honolulu, Government, &c.—Missionaries—Their Laws and Influence—Protectorate of Great Britain—Commerce—Supply and demand for all articles—Houses, Natives, Appearance, Dress, Character, &c.—Laws existing—Incidents attending Excur-

sions—Character and appearance of the Island—Legend of its Conquest—Our Crew—Arrival of 'Cockatrice'—Letters and Despatches from England — Completion of Work — Senior Officer's intentions — Effect produced — Climate of Islands.

On the following morning, the 18th, the order for sailing was countermanded, owing to the prevalence of a strong breeze from the westward, which would have rendered the towing of both ships impracticable. The day was, therefore, devoted to the completion of watering, receiving provisions from 'Gorgon,' and making other preparations for sea.

A medical survey was ordered at my request, on three of our crew, whom, from the manifestation of weakness during the voyage, and other causes unnecessary here to allude to, I considered unfit for the peculiar duties of the Expedition. They were accordingly invalided, and sent on board, 'Gorgon,' for passage to Valparaiso, *en route* to England.

The delay likewise enabled me to make several additions to the Natural History department; a few geological and botanical specimens, three species of Passerinæ (*Lanius, Oriolus* and *Muscicapæ*), together with some specimens of the Crustacea, and Zoophytes. We much regretted that time did not admit of our seeing more of this wild but interesting country, as our service admitted no delay. All were equally eager and anxious to press onwards to the scene of our future operations, as we had reached our present

position in what we considered good time; and thus completed another important stage on our voyage.

On the morning of the 19th, at 4.30 A.M. both ships were taken in tow by 'Gorgon,' and proceeded at a speed varying from one to six knots, influenced by the tide, which we considered runs through this Strait at the rate of four or five knots an hour. As we advanced to the westward, the scenery became still more wild and grand, with an appearance of gloom, dreariness, and desolation, seldom presented elsewhere. The coast appeared everywhere almost inaccessible, from the bold, precipitous front presented by the stern outline of the rocky mountains, as they rose precipitously from the water's edge, rearing their snow-capped summits in an atmosphere rendered dense and chill by the icy blast from the southern ocean. No trace of vegetation was perceptible, no evidence that the foot of man had ever trodden the wilds of these inhospitable shores, and there was nothing to indicate that the wretched, and uncivilized Fuegian had ever dared to explore this dreary waste. Glaciers existed in the gorge of the mountains, apparently their perpetual occupants, which rendered complete the general effect of gloomy grandeur in the sterile, and uninhabited wilds of this part of Magellan's Strait.

In the early part of the day, previous to our approaching the "Land of Desolation," as it is called, we observed, on the coast of Terra del Fuega, three

canoes issuing forth from a small bay—all glasses were immediately pointed towards them, every one being excited, by more or less curiosity, to see the inhabitants of this remote part of the world. There were four in each canoe, two women paddling, and two men sitting, one at either end, the former, according to the custom which exists amongst savage nations, do the greater amount of manual labour, and on them principally devolves the management of the canoe.

These poor creatures were of low stature, dark olive complexion, with long hair streaming in the wind, and a painfully striking, animalized expression of countenance; their only covering for the body, consisted of a piece of seal-skin, thrown partially over the back and shoulders, and fastened in front. I never saw the race of man before in such an abject state of degradation. They made sundry signs and gestures from the canoes—which, by the dexterous use of the paddle, were now pretty close to the ship—manifesting a desire to communicate, but we could make no delay, and I regretted much not having had an opportunity of a closer inspection of specimens of the human race, apparently amongst the lowest in the scale of intelligence. Further on, the presence of others were indicated by fires lighted in a small indentation of the coast, and we saw several of them in a state of complete nudity, notwithstanding the coldness of the weather, standing on a rock, waving their

arms, and making other rude gestures in the air—evidently showing a desire to communicate, as we observed a canoe coming out from the little bay; but our onward course soon left it far in the distance, having considerably increased our speed.

We continued in tow of 'Gorgon' throughout the night, and next morning, the 20th, a heavy swell from the westward betokened our proximity to the Pacific. About 8 A.M. Cape Pillar was rounded, and the broad expanse of the Pacific Ocean broke fairly on our view.

We had now entered on, what was to many of us, a new domain, which certainly did not present a very propitious aspect; for the heavy sea which we met with, caused towing to become a matter of some difficulty, and as we were placed astern of 'Enterprize,' the strength of the towing lines was fully tested. We had not proceeded far, when the incessant pitching and rolling of both ships carried away one of the halsers, and our Consort, as we thought, unnaturally enough slipped the other. We were thus suddenly cast adrift on our own resources; she proceeded still in tow of the steamer, we made all sail and followed in the same course. At 1.30, however, we observed 'Enterprize' then considerably ahead, part company with the steamer, and the latter immediately bore down towards us; the cutter was then sent to her, taking our last letters and dispatches for England, but soon returned with

two halsers, and the 'Gorgon' once more took us in tow, and proceeded to follow our Consort; at 3 P.M. we finally lost sight of her, *and we never met afterwards.*

The weather in the early part of the day presented a very threatening appearance; the barometers had been gradually falling for the previous thirty-six hours, and there was every indication of a coming gale, which, towards evening, had fairly set in from the north-west with a heavy sea; the 'Gorgon,' however, led us clear of the rocky bound coast of Southern America.

Early on the morning of Sunday the 20th, 1 A.M., the towing halsers were carried away, and we were again fairly adrift. We fired rockets and hoisted lights, &c., to show our position to 'Gorgon,' and it being still dark and tempestuous, we lay to under easy sail. At daylight 'Gorgon' was observed some distance on our weather quarter, and we made efforts to communicate by hailing, writing on a board, and finally by signal; but the heavy sea which was then running, rendered our attempts abortive; nor could we possibly have sent a boat with her towing halsers, which we had on board, and which she evidently sought to recover. She dropped astern, and was last observed in the afternoon at a great distance on our lee quarter, as we supposed in search of the 'Enterprize.'

Permission having been accorded to us to call at

Easter Island, one of the most eastern of the Pacific Islands; at noon we shaped a course for it, which then bore N. 44° W. 2145 miles distant. The gale continued to increase in force, with every prospect of its duration; the storm birds were about us in numbers; and nothing was wanting to heighten the wildness of the tempest.

At 1 A.M., on the 22nd, a blue light and rocket was observed in the south-west, which we answered; but morning failed to reveal the source from whence it came. From the onset of the gale we were utterly unable to contend against it: it being directly foul for us, we continued to make much lee way, and were drifted at the rate of from fifty to sixty miles a day to the south-west, until we reached the latitude of Cape Horn, where the wind having become more westerly, enabled us to pursue a more direct course; but no mitigation took place in its force, which continued to rage furiously, and with terrific squalls, rain, hail, thunder and lightning at intervals.

The weather steadily maintained this character, without, I may say, an hour's intermission, until the 22nd of May, when in lat. 26°. 34′ S., long. 102°. 28′ W., it suddenly fell calm. The lull of the tempest was of short duration, and it appeared to have acquired fresh power during this temporary cessation; for on the following morning, it again blew with its accustomed violence, and it was not until the 26th, when we had crossed the limit of the southern

Tropic (Capricorn) in long. 100°. 49′ W., that it finally abated. Next day, to our inexpressible joy, we found ourselves once more under the influence of the long looked for, and now welcome south-east Trade wind.

During this bad weather, that for a period of five weeks had thus assailed us, and which for its duration and power, was quite unprecedented to the oldest of us, we felt assured no ocean in the world had less claim to the term Pacific, than the one on whose waters we had been so ruthlessly tossed. We had reason to remember this part of our voyage; indeed, it formed a memorable chapter in our naval experience. It is difficult to form an idea of the general state of the ship throughout this trying period. The hatches were, for the most part, battened down, dead-lights fitted on, excluding the light from above—ventilation almost arrested, and the decks saturated with wet, the sea-water at times, being several inches deep on the lower deck, from the heavy seas which incessantly broke over us. Cascades of salt water occasionally made their way through the several creeks and crevices in the hatchways, while the piteous moanings and creaking of the poor old ship's timbers, weeping from every pore—and the atmosphere between decks loaded with moisture and noxious effluvia, emanating from so many persons being congregated in a confined space, added largely to

the general discomfort. Apprehensions were entertained at one time, that we should be driven on the iron bound, inhospitable coast of south-western Patagonia.

On Monday, the 28th of April, a spar was observed with some rope attached floating near us, with about twelve or fourteen feet of it upright in the water, conveying the idea of its being maintained in that position by some heavy mass attached to it below water, such as rope, or cordage. It had doubtless been carried away from a ship during the gale, or was a portion of a wreck. Speculation was rife amongst us as to possibilities, as we knew our Consort could not be far distant, and her loss of a spar by no means an improbable event.

On the night of the 2nd of May, a sail was observed on our weather beam, but it being dark and cloudy, her form and distance could not be very accurately distinguished with the naked eye. With the aid of a night glass, she proved to be a barque steering to the eastward, and shewed a light which we answered with another. We first thought it was 'Enterprize,' but from the course she was pursuing, we had reason to alter our opinion.

We sustained considerable damage on our upper deck on the night of the 10th, during the raging of the storm; the head and waist hammock netting having been carried away with some other minor mischances. These were speedily repaired as well as our resources enabled us then to do.

On the morning of the 15th, a disaster similar to that which we encountered soon after leaving England, again befel us. At 6.30 A.M. (the Senior Lieutenant being the officer of the watch) a squall from the west-south-west suddenly took the ship, which carried away her fore and main-top masts, and top gallant masts, together with the jib-boom—a direful casualty under the circumstances of our position. All hands were suddenly, to our great amazement, called to shorten sail and clear the wreck. Luckily for us the squall was of short duration, and the wind subsequently, for a short time fell light.

The spars with the rigging attached were hanging over the ship's side, and four of our men, in their activity and zeal, had got out on the jib-boom before this was carried away, (which it was subsequently to the topmasts,) and with it were precipitated into the water—the ship pitching heavily at the time. The cry of "a man overboard" had its usual thrilling effect, when all the crew were in immediate activity to save their messmates, the life-buoy was at once let go, and a boat manned in less time than I have taken to narrate it. They were found clinging tenaciously to the rigging attached to the spars, and were soon picked up under the bows, having fortunately sustained no injury; and had only the discomfort of their temporary submersion. Our smallest boat, the dingy, as it is termed, was dispatched to recover the life-buoy then

floating at a short distance from the ship. As several whales had appeared about the ship, and were still close to us, spouting with a loud blowing noise, their graceful curves of water into the air, we became somewhat anxious for the safety of the little boat, as one of those huge monsters rising under her keel, or a stroke of its powerful tail, would inevitably have capsized her; she regained us, however, in safety. During the remainder of the day, all was bustle and activity in repairing the damages of the morning. Nothing could exceed the zeal with which our men worked, and before the sun had taken his departure, we had the satisfaction of seeing the ship again under sail. Fortunate, indeed, was this lull for us, for within twenty-four hours afterwards, the gale had increased to hurricanic force, to which we dared not show a stitch of canvass, and we were driven at its mercy under "the bare poles."

The admissions to the Sick list had at this time undergone a considerable increase, from the almost constant exposure of the men on deck to the fury of the elements. The working the ship frequently requiring the whole strength of the ship's company, and the Sick Bay shared equally with other parts of the vessel, in being wet, leaky, and otherwise uncomfortable: nor was there any appearance from the nature of their diseases, of a diminution taking place in the number until the advent of more favourable weather. I could not but admire the fine spirit our

men displayed under the worst circumstances, and the cheerfulness and readiness with which they ever obeyed the call of duty ; there was only one feeling of regret expressed amongst them, that the continuance of the tempestuous weather, might so far delay us in our voyage as to prevent our reaching the ice in time sufficient for active operations that season.

Throughout the long period of these gales, the storm birds were our constant companions, in greater or lesser numbers, and in addition to those formerly alluded to, we observed the Sooty Albatross, (*Diomedea fuliginosa*) and *Fulmar* Petrel (*Procellaria glacialis*). Either pressed by hunger or emboldened by the fury of the storm, they flew with wonderful impetuosity within a few feet of the ship; darting almost with the celerity of lightning at the slightest object they saw floating on the water, and uttering that remarkable shrill noise so peculiar to the storm birds of the ocean. Fishing lines, with hooks baited, were in great requisition, and were floated astern with a piece of corkwood attached. These they seized with voracity, and in this way we procured from time to time many specimens. On one occasion, we hooked one of the large wandering Albatrosses, and it was quite wonderful to witness the instinctive feeling of self-preservation which he displayed. When conscious of being caught, he immediately dived, and on rising with wings expanded to their utmost extent, threw himself

partially on his back, thereby adding increased power to the great surface of resistance presented to our efforts in hauling, and by this means bent the hook, which finally escaped from his mouth, and was drawn on board perfectly straight. The bird rose proudly, shook his head, and flapping his wings as if conscious of success in the recent conflict, betook himself to flight.

Two of these creatures, which we subsequently caught, were brought on board with some difficulty, measured 10 and 11 feet in the expanse of wings, and weighed 19 and 21 lbs., respectively. They were really magnificent looking birds; the plumage was white, with a mottled grey back, and dark wings—head and legs of a pink colour. They, together with all the other species of the Petrel family that were caught, ejected a large quantity of yellow oily matter, as if sickness had suddenly supervened on their change of element. The Sooty Albatross is smaller, and appears in flight, habits, and general distinctive character similar to its more powerful confrère, the young bird of this species. It has the plumage of dark grey colour gradually merging into the darker hue of the parent bird, with white chalk-like eye-brows. We caught one, and it also became sick like the others when brought on board. We only lost their company as we approached the limits of the Tropics.

On the 22nd of May, in lat. 26° 34′ S., long.

101° 28′ W., the deep sea lead with thermometer attached was sent down to the depth of 185 fathoms, when we found the temperature 53° F., and again to 110 fathoms, it was 65°; the temperature at the surface being 72°, and that of air 71° F., which might perhaps be considered to establish the existence of a deep southerly current from the Antarctic Ocean.

During the prevalence of bad weather, we found that water had found its way into the bread-room, from the constant straining and working of the ship, and as soon as circumstances admitted, its contents were brought on deck for survey, when no less a quantity than 986 lbs. was condemned as unfit for use, and thrown overboard. This great loss would have been a matter of serious consideration had it occurred at a later period of our voyage, but we were consoled with the knowledge that we should be able to supply the deficiency at the Sandwich Islands, which we subsequently did.

It is scarcely possible to describe with what pleasure we hailed our re-approach to the Tropics, as we were wafted steadily on our course by fresh and fair Trade breezes from the south-east, after the long period of bad weather we had lately experienced, with all its attendant discomforts and disasters; to say nothing of a dull, irksome feeling, inseparable from a long sea voyage, that still continued to be ours, despite the cheering influence under which we wended our way to the northward. There was

nothing present to enliven the scene, nothing broke on the view, but the broad expanse of the placid sea, with its slightly ruffled surface sparkling in the sunshine, except the flight of the Flying-Fish, the dash of the Dolphin, or the croak of the Phaeton, as he proudly soared aloft in an atmosphere pure and serene, beneath the canopy of a cloudless sky. Enlivening and agreeable as these sights at first were, their interest was now gone, and we indulged in the hope that a fair wind and a crowd of canvas would soon bring us to more varied scenes.

The Tropic Birds were met with at a higher latitude than in the Atlantic, we having seen two on the 18th May, in lat. 27° 50′, long. 97° 48′; and from the time we entered the Tropics, they were seldom a day absent. They are remarkable pretty, are about the size of a Gull, and when on the wing, they utter a peculiar shrill whistle; their plumage is entirely white, with the exception of a little black surrounding the eyes, and extending in a delicate crescentic line towards the back part of the head; the primaries, or larger wing feathers, are also tipped with black. The tail feathers are exceedingly pretty, two are prolonged from its centre, varying in length from 6 to 10 inches, of a most delicate pink colour, which contrasts beautifully with the satiny lustre of its snow-white plumage. In the young birds I observed but one, the other could be

seen on examination shooting forth from its parent nucleus. The feet and legs are short, and the wings long, rendering the creature capable of very prolonged flight. In confirmation of this, I may state, that on examining the stomach of one I found it to contain nothing but a few small masses of blue clay, the existence of which appeared very strange, as we were at the time 2000 miles distant from the South American coast, and about 600 miles from the nearest island.

On the 26th of May, on entering the Tropics, we shaped a course for the Sandwich Island, Owhyee, which then, bore N. 53° W. 4140 miles distant, and from that date continued to make uninterruptedly good progress until it was reached, carrying every stitch of canvas it was possible to crowd on the ship. Under circumstances so favourable, we made an average daily speed of upwards of 100 miles, and on one occasion 186 miles in twenty-four hours, the greatest performance the slow sailing 'Investigator' ever made.

On the 15th of June, we crossed the Equator for the second time in the space of three months, in long. 131° W. but without meeting with that heavy rain and the other atmospheric changes I had occasion to notice in the Atlantic; the weather being beautifully clear and serene.

When ten miles south of the Line, I was surprised to see a solitary little Storm Petrel, fluttering about

the ship in a state of apparent exhaustion. I hoped it would have sought a refuge on board, but in vain, as it was soon lost to view. What could have brought the poor thing so far from the usual regions of its abode, it appears difficult to conceive, as this could not then be attributed to the force of the wind, which had been long light.

On the 19th and 20th, we were favoured with heavy rain—as anxiously looked for and welcomed as on former occasions—the wind at the same time having freshened and become variable with occasional squalls; and on the 23rd we were gratified by feeling the influence of the north-east Trade, in lat. 8°. 14′ N., long. 139°. 56′ W. My observations on the temperature of air and water, did not vary very materially from those made in the Atlantic. I remarked, however, that they were both one degree higher than we had registered on any former occasion, when five degrees north of the Equator.

At six o'clock on the morning of June the 29th, the joyful report of land was proclaimed from the mast-head, which soon brought us on deck. The snow-covered "Mona Roa," in the island of Owhyee, could be faintly discerned in the distance, and most gladly was it gazed on by us all, although the island was still forty miles distant. As we approached the land, this lofty mountain, the height of which is about 1500 feet, presented a very fine, picturesque appearance, for as the day advanced

the sun's rays gradually dispelled the mist that enshrouded it, through which its conical tops now peered, disclosing their high lands in the purest snow-white garb, and beautifully reflecting the scorching rays that illumined the chilling loveliness of the scene.

This island is of a purely volcanic character, as was fully evidenced by its general aspect. It is of great extent as we continued to run along its coast the entire day, and night did not free us from its boundaries.

I cannot express the delightful feelings with which we viewed the land, after a sea voyage of upwards of 15,000 miles, and as the ship continued to near the port, our impatience and anxiety evidently increased.

On the following day, Sunday, 30th, the other islands of the group came into view, Mowee and Morotoi, both of which were grand and lofty in their general outline, and truly picturesque. Deep gorges and valleys, in which we observed numerous huts, interrupted the continuity presented by the bold precipitous coast line which the eastern aspect of these islands presented, both of which were of volcanic origin. Judging from appearances, these gorges and valleys are quite secluded and isolated from each other, walled in, as it were, by the lofty mountains which surrounded them; apparently they were well cultivated, and the huts comfortable and commodious.

We were favoured with the agreeable sight of a fellow voyager, for the first time, I may say, since

leaving the Straits of Magellan, with whom we exchanged colours. She proved to be an American, and, like ourselves, bound for the Island of Oahu, which was visible at sunset, but as night soon afterwards closed in, the ship was hove to, to await for a pilot.

From the time we approached these islands, we observed the Flying-Fish more numerous, in greater shoals, and larger than we had at any time before seen them; they were likewise different in colour, being of a reddish brown. Several flew on board, one was no less than sixteen inches in length.

At 4 A.M., on the morning of the 1st of July, we made all sail for the harbour of Honolulu, and after firing two signal guns, a pilot came on board. We much regretted, owing to wind and tide he could not then take us into harbour, and were, therefore, obliged to anchor in the roads, outside the reefs, where we found several merchant vessels, and the French corvette 'Bayonnaise,' whose gallant Captain politely sent an officer on board, immediately we had anchored, with offers of assistance and congratulations on our arrival. We had previously exchanged numbers with H.M. Brig, 'Swift,' at anchor in the harbour.

Our first enquiry was for our consort 'Enterprize,' whom we learned, with deep regret, had only left on the morning preceding for the North, having arrived here on the 25th of June, and after replenishing

provisions, stores, &c., her Captain, not considering it prudent to wait longer for us, proceeded to sea, having left instructions for our guidance with the senior officer, Captain Aldham, of the 'Swift.' No time was therefore lost in making the necessary preparations for following her.

The appearance of the island of Oahu as we approached, was like the others, of volcanic origin, picturesque and beautiful, intersected by valleys and gorges, but skirted by low sandy plains, on one of which the flourishing town of Honolulu is situated.

These valleys are clothed in the richest verdure, and yield bananas, cocoa-nuts, water-melons, bread-fruit, and every variety of other tropical fruit in great abundance. There is a remarkable looking mountain situated south-east of the town, and, from its shape and isolation, standing alone on the plain close to the beach, the name of "Diamond Island" has been given to it. From its formation, it is likewise the product of igneous agency. The lower two thirds are formed of distinct volcanic cones, on which is super-imposed a stratified deposition which forms its upper third—evidently a subsidence from water, when the volcanic cones shot through the bed of the ocean, or deposited after they had been formed; but in either case, long previous to their acquiring terrestrial existence.

At six o'clock on the morning of the 2nd, we got under weigh, and proceeded to the entrance of the

harbour, where we were safely warped by the natives; and anchored. This is narrow and dangerous, as sand-banks run out on either side on which we saw the remains of several ships that had, perhaps, journeyed far over the globe, only to deposit their timbers here. On entering the narrow channel, an acute angle must be rounded, which, in certain states of the wind, is attended with danger. It is then that the warps, having been previously laid out, are seized by the natives, who, in great numbers rush into the water, and by the united power of their muscular frames, ships are warped in safety to their anchorage.

No time was lost in replenishing stores and provisions, and making all other necessary preparations for again proceeding to sea. Captain Aldham and his fine, noble-hearted crew cheerfully lent us every assistance, which enabled us to allow our men leave to go on shore and enjoy themselves after their own fashion, for they had earned every indulgence that could be granted to them, by their exemplary and admirable conduct. We commenced a thorough exploration of the island, and mounted on very indifferent horses, soon exhausted "the lions" of the place from end to end.

Honolulu has lost almost everything pertaining to its ancient character, laws and customs, and wears now an aspect truly mongrel, half native, half foreign.

The government is vested in the King and his ministers; the latter were, I think, with a solitary exception, chosen from the Missionaries who appear to exercise sovereign power in the island; the exception being that of the Minister of Foreign Affairs, (Mr. Wylie,) who is, I believe, a Scotchman. They nearly all belong to a branch of the Boston Missionary Society, and shame to our country be it told, there was not at this time a single British missionary in the entire group of Sandwich Islands. All the good work for the spiritual, and it would also appear for the temporal welfare of the people, has been accomplished by the zealous labours of the citizens of a country, to which these islands may not improbably, at a period perhaps not distant, own their allegiance. I was certainly surprised to find that this fine group of islands daily growing in importance, from the geographical position they occupy on the globe—situated as they are on the direct highway between Asia and America, and through the latter to Europe—which own Great Britain as their protector, and carry her Union Jack in the upper canton of their flag, were then so entirely under American influence, while the number of active and enterprizing adventurers from the States far exceed those of any other nation. They certainly demand more of our fostering care and protection, otherwise the "Meteor Flag" may in time be supplanted by the "Stars and Stripes" of the New World.

There were a great number of ships in the harbour,

many of them whalers, which resort hither from their cruising ground in the north, to refit and recruit the health of their crews. The majority of the others were traders chiefly engaged in the carrying trade between China and California. About the principal wharves there is a great bustle—vessels are in process of taking in cargo, and discharging; passengers bound for California are congregated in groups; numbers of the natives are employed, whose harsh, discordant sounds of voice, by no means added to the tranquillity of the scene.

Trade is very brisk not only with these places, but, with other parts of the world, and during the previous twelve months, it had increased to a wonderful degree. In consequence of which, the call for native produce far exceeds the supply, and it would appear that the resources of the islands were unequal to meet the heaviness of the demand. I was informed that the prices of articles of every description had risen a hundred per cent., within a few months. English, American, and European manufactures and produce can be procured with facility, but at an enormous price. The markets are poorly supplied from the rapidity with which things are bought up; fruit and fish even are scarce from the same cause, and exorbitantly high in price.

There are many very fine houses in the town and neighbourhood belonging to merchants of the

place, built apparently with great regard to comfort and coolness. The native huts are numerous, and formed of a wooden frame-work well put together, and densely thatched with straw, that renders them not only cool, but likewise impervious to rain; they generally possess but one apartment, on the floor of which mats are spread, where the occupants eat, drink, and sleep. The natives appear a fine athletic race, well formed, tall and muscular, erect in their gait, and of a dark brown or copper colour. I believe, they enjoy a great immunity from those direful evils, that civilization frequently carries in her train, and which have contributed largely to the degeneration of the natives of many of the more Southern islands in the Pacific. They are clad, for the most part, in a modified style of European dress, of light fabric suitable to the climate, consisting of short trousers and shirt; but in the country both are frequently dispensed with, and the "maro" substituted; a hat being often worn with it, as if to supply the want of other portions of dress, and this apparently imparts great dignity to the wearer.

They are uniformly civil, courteous, and obliging, many instances of which I had an opportunity of observing in my rides through the island; for it not unfrequently happened to myself and companions, where roads did not abound, that we went astray. This was no sooner observed, than we could dis-

cern a lightly clad guide hastening over the plain to our assistance.

These remarks are equally applicable to the women, on whose beauty I regret to say I cannot bestow unqualified praise; nor on their dress, a long loose robe drawn closely at the neck and extending down to the feet—this is, I believe, the only garment worn, and was generally made of printed cotton of gay colours, into which yellow entered largely. This appeared to me, as they evidently thought themselves also, the tint most becoming to their complexion; other articles of dress are, of course, superadded according to the wealth and position of the individual. They are exceedingly fond of dress, and love to display bonnets gaily decked with ribbons. Veils and umbrellas are also articles much coveted, and worn even by some of the poorest class, who make great sacrifices to obtain them, while their huts afforded ample evidence of poverty and want. From the abundance of horses, they may be frequently seen mounted and riding like the men, which had rather a curious appearance; on these occasions I remarked the dress was prolonged for some distance over each foot, forming a sort of miniature habit on either side. The higher orders of females were generally attended by a female servant similarly caparisoned.

They are under very severe missionary discipline, and the savage "taboo" is extensively in force, with the laudable view, I believe, of promoting a high standard of morality in the islands; but as far as I

could ascertain, this rigour not only defeats its purpose, but tends largely to promote and foster a great amount of secret sin and infamy, which are the worst of evils. The absurd laws then in force aim to establish such a moral code, as exists amongst no people on the face of the earth, and this is largely and secretly violated by those who are obliged openly to profess it, under fear of the pains and penalties its violation entails.

I may here adduce an instance of some of the absurd, puritanical laws which exist—the use of wine and spirits, is totally prohibited, under pain of being denied the rites of baptism, and other privileges pertaining to the Christian religion; and I was informed that a respectable American merchant was anxiously looking out for the arrival of a British man-of-war, bearing a chaplain, that he might have his child, then many months old, baptised—a rite the clergymen of his own church had refused, because he allowed wine to be drunk in his house. Such is a specimen of the missionary code, and, for the good of the community, the advancement of that Holy religion, of which the law-makers are ministers, the sooner it is repealed the better.

Amongst the pleasant rides this island affords, one is deserving mention, no less from its beauty than its historical interest. It is through the delightful and picturesque valley, that rises with a gentle ascent to the westward of the town, and intersects

the lofty chain of mountains extending from end to end of the island, whose towering proportions impart much grandeur and beauty to the scenery. They are wooded to their summits, and the luxuriance of the foliage and richness of the verdure, presented a truly beautiful appearance, as the rays of a departing sun, falling on its irregular surface had from the effects of light and shade, revealed to view the most varied tints of the richest green. In the valley, and extending up the sides of the mountain, are the summer residences of the King, and of the missionaries and merchants of Honolulu; all prettily situated, where the mango, banana and palm, with every other variety of tropical produce, luxuriantly abound. The mansion of the King is a plain quiet looking house, with no particular indication of its being a Royal residence. Those of the missionaries have all a substantial comfortable appearance, which together with their well stocked farms, afford another illustration of their living in the enjoyment of the fat of the land.

This valley abruptly terminates in a ledge of high, nearly perpendicular rocks. About five miles from the town, a winding path descended to a rich plain below, skirting on the western side the longitudinal range of mountains, and corresponding to that on the opposite side of the island, whose shores were washed by the sea about a mile distant from where we were standing.

A few huts were interspersed through the plain, and around them reigned an air of quietude and repose, delightful to contemplate. The high rocks on which we stood were classic ground, for there the last battle was fought that placed the Sovereignty of this, and the other islands of the group, in the hands of the ancestor of the present king, (his grandfather, Kamehameha,) and at the base of the rock may still be seen the bones of the gallant defenders, now whitened by years of long exposure.

The story is told that when the invader landed, he was met by the natives in great numbers on the plain of Honolulu, who there gave battle. They were ultimately obliged to retreat up the valley I have mentioned, gallantly defending their soil as they retired, until they reached its top, where they made a last final stand, but were utterly vanquished; the conquerors driving them over the rocks into the precipice beneath, and left few, if any, to record their disaster, or tell how their island had passed into the hands of the invaders,

King Kamehameha III now rules, or rather is ruled by the missionaries, and they have no doubt done much in former years for the country and its inhabitants; it is, therefore, earnestly to be hoped, that a more enlightened system of legislation will soon prevail.

During our stay, I heard that an old woman

survived in a remote part of the island, who originally belonged to Owhyee. She had a clear recollection of the death of Captain Cook, and could narrate the circumstance with great accuracy. I regretted much that time did not enable me to visit her.

It was gratifying to witness the great enjoyment our men appeared to experience in their short run on shore; they were to be seen everywhere, some mounted on horseback, others running along the road in expectation of their turn to ride. All, I believe, had more or less violated the existing missionary laws, and a few gave unmistakeable evidence of indulgence in fluids stronger than water. It was only wonderful no casualties occurred, from the fearful pace at which they galloped through the country.

Nothing could exceed the fineness of the weather during our stay, and although the temperature varied from 75° to 80°, yet from the uniform regularity and steadiness of the refreshing sea breeze, the heat was by no means oppressive—the insular position of these islands tending so much to modify the effects of the high temperature which generally prevails. From all the information I could collect, the climate may be pronounced a salubrious and delightful one, as evidenced in the high standard of health enjoyed by its inhabitants, and the degree of longevity generally attained.

On the 3rd, H.M. Brigantine 'Cockatrice' arrived from Mazatlan—the Admiral having very kindly dispatched her with the latest letters and dispatches from England; but as few of the former were received, we assumed they had been sent on to Valparaiso, in the hope of meeting us there. We had originally intended to call at that port on our way to the northward; but as our passage had been so much delayed from the bad weather we experienced, the idea was abandoned.

On the evening of this day, we had nearly completed our work, and continued uninterruptedly throughout the night making preparations for our expected departure next day. All participated in the feeling of anxiety that no time should be lost, as we had heard that Captain Collinson had expressed his intention, (indeed his orders to us were to that effect, as we learned subsequently,) to take the 'Plover' into the ice with him, in the event of our not reaching Behring's Strait in time. This intelligence was received with manifest dissatisfaction—nor could we understand why we, who were all volunteers for service in the ice, should be thus thrown aside to remain in listless inactivity, while others would assume the place in this philanthropic service we could not concede to any, and which it was *our undoubted privilege to occupy.*

Had a stimulus been required for increased exertion, it was at this time present; and a general determi-

nation was taken, without our then exactly seeing the mode in which it was to be carried out, that Behring's Strait *must* be reached in the proper time, to prevent what we all individually and collectively would have considered a misfortune no less heavy than undeserved—our being debarred from taking our proper place in prosecuting the search for Franklin and his brave associates.

CHAPTER III.

Departure from Honolulu—Completion of Stores and Provisions, and facilities afforded—Orders of Captain Collinson — His intended Route — Valuable intelligence received respecting the Winds — Adoption of it and success which followed — Incidents and Events — Enter the Temperate Zone — Progress, Soundings, &c. — Currents — Change of Temperature—Pass the Aleutian Islands, and enter the Kamtschatka Sea—Sea Birds—First Seal seen — Gore's Island, Currents and Temperature — Difficulties of Navigation — Weather—King's Island—Soundings—Pass Behring's Strait —Cross the Arctic Circle—Incidents—Whales—Temperature of Air and Water—Steer for Cape Lisburne—Issue Warm Clothing — Meet the 'Plover'. — Unfavourable Report of the Ice—Incidents — Crow's Nest — Cape Lisburne—Birds, Drift-wood, &c.—H.M.S. 'Herald'—Non-arrival of 'Enterprize'—Determination to enter the Ice alone—Aspect of the Cape—Object of Visiting it—Signal from 'Herald'—Probable position of 'Enterprize' — Part company with 'Herald'— Admiralty Orders to keep Company—Proceed to the North — Reflections — Value of two Ships in Polar Navigation— Weather—Sunset.

On the 4th of July, the last portion of our provisions and stock was taken on board. We failed in obtaining an ample supply of fresh meat, owing to several

bullocks having been drowned in attempting to land them from one of the native boats, and our stock was consequently reduced to one bullock and twelve sheep. The supply of fruit and vegetables was likewise short, from the scarcity consequent on the briskness of demand. It consisted of water-melons, bananas, pumpkins, cabbages, and other fruits and vegetables; but we could not then procure a single cocoa-nut, abundant as they are on the islands, all having been bought up a few days before.

The ship was again, therefore, much crowded, every available spot occupied above and below, as we had completed provisions for three years, and nothing further remained to detain us. For the rapidity with which we were thus equipped and made ready for sea, we were much indebted to the facilities afforded by the merchants, and the kind and able assistance we received from the Consul-General Miller, Captain Aldham and the officers and crew of the 'Swift.' I am sure the latter gallant and estimable officer, should these pages ever meet his eye, will not readily forget the visit of the 'Investigator,' and *the circumstances* which led to his acquaintance with her officers.

At 6 P.M., on a lovely July evening, the 'Investigator' was again under weigh, and standing out to sea, with the same light and fair breeze which had brought us to our anchorage, steering a course to the north-west.

I may here pause to mention a circumstance that, above all others, exercised the most important influence on our future destiny, and which was mainly instrumental towards making the Discovery that distinguished this Expedition.

The orders of Captain Collinson stated his intention to run down in the latitude of the Trade-winds, until he reached the meridian of 174° E., in the expectation of there meeting with westerly winds, that he expected would carry him clear of the Aleutian group of islands into Behring's Strait. This being the course generally pursued and recommended by former voyagers, and which we, no doubt, should also have followed, had a fortunate circumstance not occurred to prevent it.

On the day previous to our leaving Honolulu, we heard from the intelligent captain of a merchant ship (I think an American) who had just arrived in harbour, and who had had much experience in navigating the seas to the northward, that he had met with nothing but easterly winds for some weeks, which were the prevailing winds at this season of the year, and he strongly advised us, instead of following the course I have mentioned above, to steer direct to the northward. This he told me and several other officers, at one of the hotels where we met him, and he was most energetic in denouncing the folly of pursuing any other course. I am sorry that I am not in possession of the name

of this fine intelligent old sailor, to enable me to record it, that he might be aware of the important results that followed the adoption of his advice.

On the following day, the 5th, we had finally got clear of the most northerly of the islands, and pursuing the counsel we had received, had shaped a direct course to the north-west for the Aleutian island of Atoka, which then bore N. 72°, W. 1790 miles distant. We had thus entered on nearly the last stage of our voyage under very favourable circumstances, much refreshed by our recent visit to these lovely islands. We were in excellent health and in high spirits from the intelligence we had but lately received, and were now acting upon, in ardent expectation of reaching the scene of our future labours in good time.

Before leaving the Sandwich Islands, I took advantage of the last opportunity I expected to have, to invalide three men as unfit for the service of the Expedition, but who would be quite available for the ordinary duties of general service; and they were discharged into the 'Swift' for passage to Valparaiso. Their places were filled up by three volunteers, two from the 'Cockatrice,' and one from a merchant ship. The general state of health of the crew was excellent, although several admissions to the sick list had taken place since our departure, but

with affections of no greater importance than those generally resulting from sailor's indiscretions on shore.

On the 6th, we finally quitted the balmy regions of the Tropics in long. 160° 10′ W., and again entered the northern Temperate Zone with a fine fresh breeze from the N.E. which bore us steadily onward, our speed averaging each successive day considerably upwards of a hundred miles.

As we continued our northerly advance, the temperature of air and water sensibly diminished, the atmosphere gradually lost its pure, serene character, and became dense and foggy, but the wind remained still steadily in our favour, occasionally varying a point or two, but fully verifying the intelligence we had previously received. The fog was on several days so dense that we were unable to obtain a meridian altitude of the sun, nor could an object be seen any considerable distance ahead of the ship; but we still held steadily on our course. On the 19th, our observations told us of our near approach to land; several flocks of ducks and other birds were seen, which afforded us corroborative indications. The deep sea lead was sent down with thermometer to the depth of 180 fathoms, but no soundings were obtained; the temperature was ascertained to be 40°, that of the surface water being 51°, of air 50°, and the current setting to the southward was estimated at the rate of ten miles per day.

At five o'clock on the evening of the 20th, land was reported on the port bow, and the bold, stern looking outline of the eastern extremity of the island of Amlia could be faintly discerned through the dense haze which enveloped it, then distant about ten miles. An hour afterwards, the western extreme of the island of Tchunam was observed on the starboard bow; indistinctly, it is true, but equally bold as its confrère on the opposite side. About the same time we passed through a rapid tide, and cleared the Strait between these islands, in which we obtained soundings in thirty-five fathoms. The hazy state of the atmosphere did not enable us to make any accurate observations of these islands, as the general aspect and outline of either could not be seen; but a small rock off the eastern extremity of Amlia, might be considered a good mark whereby to identify it.

With the sun's departure this evening, we quitted the northern limit of the Pacific Ocean, which we had entered exactly three months previously. Since leaving Honolulu on the 4th, our progress speaks for itself; having entered the Kamschatka sea, on the evening of the 15th day—a passage remarkable for the favourable circumstances under which it was made, the wind never once being otherwise than fair, and this too in latitudes where the experience of the old voyagers would have led us to expect a very different state of things: and the result exceeded

the expectations of the most sanguine amongst us. We had yet another difficult stage to pass before entering the Arctic Circle, and one which could not be thought of without apprehension, from the imperfection of the charts, and the foggy weather known to prevail. While passing the Aleutian Islands, numerous flocks of sea birds were about us, they doubtless frequent them in myriads—embracing, I believe, all the family of the Palmipides. Two little Auks (*Alcæ Alle*) flew on board at night about 10 P.M. evidently exhausted, and were speedily captured. On the 21st we shaped a course for Gore's Island, which bore north, 396 miles distant—being then in the latitude of some parts of England, (53° 44′) and the height of its summer, we found a great difference in the relative temperatures of the two places, the mean of the day being 47°, which underwent a daily decrease for the remainder of the voyage. As we continued our course, we felt the effects of the southerly current in a more marked degree, carrying with it sea-weed and drift wood in considerable quantity, and the birds likewise became more numerous: the Albatross had ceased to visit us before leaving the Pacific, one species only (*Diomedea Fuliginosa*) had attended us so far; but their place was supplied by a great variety of Ducks and Divers, the King Eider (*Anas Spectabilis*) and Loon (*Uria Brunnichii*) were for the first time seen.

The Seals had likewise paid us their first visit, and one of them was fired at and wounded. These circumstances together with the increasing daylight, afforded cheerful evidence of our progress, which was still uninterruptedly good, although the weather had become so dense, raw and foggy, that at times we could scarcely see the ship's length ahead. Early on the morning of the 25th, we were fortunate in getting a glimpse of what we supposed to be Gore's Island; it was passed during a dense fog, and with a fresh south-westerly breeze we shaped a course for King's Island, off the end of St. Lawrence Island, which then bore N. 29, E. 156 miles distant. The frequent use of the lead became now absolutely necessary, and we sounded constantly each day in water varying in depth from fourteen to thirty-seven fathoms, fine sand and mud; in one instance only did we find a rocky bottom, near lat. 63° 11′ N. long. 168° 3′ W. The navigation of the ship had become a matter of no ordinary difficulty, and could not but cause an intense degree of interest, not free from apprehension, amongst us. The continuous foggy state of the weather had prevented us from obtaining such accurate observations as could be relied on, and the sun being almost constantly obscured, we had but little to inform us of our progress, except the log line. Guns were fired at frequent intervals to warn any ship of our approach, and as the chart of this sea was considered more or less

inperfect, the greatest care and vigilance were had recourse to on board to watch for aught that might indicate an approach to land: under these circumstances we still fearlessly stood on. On the morning of the 27th, King's Island was faintly visible about eight miles distant, where we found a strong easterly current setting into Norton Sound. We altered course a little more to the westward, to keep clear of the land; the soundings varied from twelve to twenty-five fathoms, fine mud, and broken shells—the first time the latter were met with. At 11 P.M. still surrounded by the same impenetrable fog, and still speeding onward in the darkness, we suddenly passed through a strong tidal race into a smooth water, which from the noise caused by the opposing wind and current, gave one the idea of its being a well marked watery barrier existing between two different seas. On the following morning, Sunday, July 28th, at seven o'clock, we quitted the northern limit of the Temperate Zone, crossed that of the Arctic Circle, and entered the waters of the Polar Sea—an event joyfully hailed by every soul on board. We were now favoured with a clearer atmosphere than we had known for many days, which was also less moist, and although cold was pleasant and agreeable; the sea had likewise assumed a most tranquil aspect, and we had thus entered on our new domain under auspicious appearances at least.

In the course of the day we exchanged colours with two American whalers, which were apparently full and homeward bound. Several whales were also seen spouting at a distance, and the *crang* of one, (the name bestowed by the whalers to what remains after the blubber has been removed) floated past us, on which myriads of sea birds were regaling themselves. We were subsequently afforded ample evidence of the number of these monsters frequenting this sea, which enables us to testify to its excellence as a cruising ground for whalers; and this is, I believe, entirely in the hands of the Americans. The temperature of sea-water on entering the Polar Sea, fell three degrees in four hours, remaining a few tenths above freezing point, which led us to expect an early appearance of ice, that of air 41°. Depth of water varyed from seventeen to twenty-four fathoms.

On the 28th, still favoured with a light south-easterly wind, we shaped a course for Cape Lisburne, the proposed rendezvous, which then bore N. 25 E. 51 miles distant.

The first issue of the warm clothing supplied by Government for our use, was then made; embracing one complete suit of blue double milled box cloth, boots, stockings, boot-hose, comforters, mits and caps; all of excellent quality, and well adapted for Polar service, of this I shall have occasion to speak hereafter.

The days had now attained such a length, that at the hour of midnight we had very good twilight,

the sun being but a short time below the horizon. At 8 P.M. a sail was observed, bearing down towards us, which we soon recognized, gladly welcomed H.M.S. 'Plover,' and immediately communicated. She could afford us no tidings of our Consort, having just returned from the ice, which she sighted on the 27th, and afford us a most unfavourable account of its state and condition, it being quite impenetrable. As she had viewed it some three or four miles distant, not deeming it prudent to make a nearer approach, we were nothing daunted by the report, but indulged in the hope that the reality of matters would prove less appalling than the description. We took advantage of her presence to forward our last letters and dispatches for England, then parted company, and proceeded on our course. They informed us that they were regularly supplied by the natives with reindeer and birds, a large number of which was suspended from the rigging, but we were not afforded an opportunity of verifying their opinion of the excellence of such diet.

Our men were now daily employed in occupations novel to many, in putting in order, and preparing all necessary implements for ice navigation; ice anchors and chisels, hatchets, saws, whale lines, &c., were all duly overhauled and got on deck in readiness for use. The crow's nest had been hoisted to its aerial position, at the fore-top-gallant mast head. This well known emblem of Discovery ships, and of others

employed in the navigation of icy seas, from the novelty of its appellation may, for the unprofessional reader, require a short description. It is in form like a barrel, from which it is generally constructed, with a trap door at the bottom sufficiently large to admit one person, and is hooded over at the top with canvas, so as to afford protection from the wind to its occupant, who is generally the ice master or mate: from this position his observations are made on the state of the ice.

The number of birds appeared daily on the increase as we advanced, driftwood was observed also in greater abundance, and the sea appeared full of animal life; I had the dredge overboard, and added to my collection numerous specimens of the Crustaceous and Acephalous animals.

On the morning of the 31st, when about twenty miles distant from Cape Lisburne, a sail was observed to the N.W. standing down towards us, when opinions were freely hazarded as to the probability of the stranger proving to be our long lost Consort, or otherwise. The question was decided as the gay ensign of St. George was unfurled to the breeze, and her number simultaneously flew at the mast head, which speedily informed us that H.M.S. 'Herald' was about to join us. We soon closed, and as she rounded under our stern in good style, she manned her rigging, and welcomed us with three hearty British cheers, and one cheer more, to the Polar Sea—a compliment we immediately returned, and pro-

ceeded in company towards Cape Lisburne, then visible. Captain M'Clure presently went on board, but soon returned accompanied by Captain Kellett and some of his officers, who manifested a great desire to afford us every facility to our onward progress; and offered all the assistance it was in their power to give, as far as the 'Herald's' resources would allow. We gladly availed ourselves of their proffered assistance by completing deficiencies in our stores, and as we were still three men short of proper complement, we received an equal number of volunteers—strong muscular looking fellows, apparently well suited for hard service—and as we could have no hope of meeting with another ship, we dispatched a few hastily written letters—our last—to England.

We learned with regret that nothing had been seen or heard of our Consort, and having now arrived at the rendezvous, there could exist no doubt that she was still far distant behind us. Captain Kellett informed us that it was he who advised Captain Collinson to pursue the course which I have before narrated, and which he himself had done for three successive summers, the average passage being fifty days to Cape Lisburne. It could not, therefore, for a moment be supposed, that the 'Enterprize,' (a much slower sailing ship than the 'Herald,') could even, under the most favourable circumstances, have made the passage in much less time; nor did any of us

believe it possible for her to have done so, despite *the* opinion that was then advanced to the contrary.

We received no orders from our senior officer (Captain Collinson) as to our course of action in the event of reaching the rendezvous before him; the possibility of such a contingency occurring, evidently had never been for one moment entertained. We were consequently obliged to adopt a course of action for ourselves. One of two only were left for us to pursue—either to remain at the rendezvous until the arrival of the 'Enterprize,' with the uncertainty of then meeting her, owing to the foggy state of the weather, and thus lose the season in the ice; or at once proceed to the northward, and enter the ice single-handed. We resolved on the latter, and cheerfully prepared to encounter all obstacles and dangers, with a firm reliance on a merciful Providence, and full confidence in our resources. Never did any body of men enter on a hazardous enterprize with stouter hearts or finer spirit than the brave crew of the 'Investigator' then manifested, and maintained throughout every subsequent stage of our eventful voyage.

Captain Kellett, although the senior officer present, did not feel himself justified in detaining us. From this date, we formed an expedition in ourselves, and parting with the 'Herald,' after an interchange of complimentary signals, stood in for Cape Lisburne—the 'Herald' still in company astern of us.

Cape Lisburne is a fine, bold headland, some 800 or 900 feet high, and is well represented by the sketch in the published chart of this locality. It is of limestone formation, with a range of hills extending to the eastward; is conical in form, with a line of stratification dipping at an angle of about 15° in a south-eastern direction; but the more permanent headland had the line of stratification nearly horizontal. The hills were all surmounted by a mass of loose grey scoriæ, and were separated from each other by partial gorges, which sheltered on either side, presented an appearance of verdure that contrasted pleasantly with the general barrenness of its aspect. On the top of the most elevated headland, which is likewise the most southerly, a number of conical-shaped points or pillars were discernible, partially enveloped in mist, with masses of snow strewn about; and this, from its fine bold appearance, may be considered the Cape. To the southward, the low, sandy promontory of Point Hope could be seen, running parallel to the range of hills extending eastward from the Cape, and between which a fine bay intervened.

Our object in thus approaching so closely to Cape Lisburne, was with a view of ascertaining if a cairn, or any other landmark, had been erected that might in any degree affect the resolution we had arrived at, of proceeding onwards to the ice; but nothing was visible to afford any indication that it had been visited at any period either recent or remote. We, therefore,

shaped a course at once for the ice, and stood away to the N.W. ½ W., with a fine fresh north-easterly wind. The 'Herald' still kept ominously astern, which did not at all contribute to our comfort; for, it may now be confessed, we still feared that Captain Kellett would detain us, and that on reflection, he might see the necessity of keeping us at least some days to await the chances of our senior officer's arrival; but *as the truth must be told,* an opposite state of the case was urged on him. Captain M'Clure maintained that the 'Enterprise' was a-head of us, and in support of which, retained the private letters he had for Captain Collinson *for early delivery.* The impossibility of such being the case I have already shown—of course, no person could truly entertain an opinion to the contrary, and I am sure Captain Kellett had too much sagacity not to see the true state of things. This I must confess we all rejoiced at, as we were anxious to get on, from a general feeling entertained that our Consort had neglected us. But he was evidently unwilling to assume the responsibility of detaining us.

Our worst fears were excited however, when in the evening we saw the 'Herald' make all sail towards us, and rapidly closing from her superior sailing qualities, she made a signal recommending us to wait forty-eight hours for the 'Enterprize,' to which Captain M'Clure signalized in return, "*Important service. Cannot on my own responsibility!*"

This not being clearly understood, Captain Kellett

hailed from the poop, desiring us to repeat the signal, which was accordingly done. She then gradually dropped astern, made no further reply; and at 11.30 P.M., she tacked and stood in for Cape Lisburne. This afforded us an inexpressible degree of relief, as we then considered ourselves free from all control, and the object sought had been attained. Such is a truthful narration of the circumstances attending the bold project conceived and acted upon, of entering the ice alone, an event hitherto viewed by Arctic navigators with the greatest apprehension, and one which is certainly attended with extreme risk as well as great danger. Hence two ships have always been sent on Arctic Expeditions, for mutual succour and support, and for the salutary controlling influence, no less than the social effect they cannot fail to exercise on each other, when in company. Our expedition, from the period of leaving England, was not a combined expedition, as may be seen from the foregoing pages, although the Admiralty orders admitted of but one interpretation on the subject, which ran as follows:—"*We deem it right to caution you against suffering the two vessels placed under your orders to separate, except in the event of accident or unavoidable necessity.*"

Notwithstanding the positive nature of these orders, 'Enterprize' left us twelve days after leaving England; and it was by the merest chance we caught her in the Straits of Magellan—it being her intention to sail the following morning. Hence we could feel

but little regret at losing the company of a Consort that had hitherto proved so faithless. She manifested a desire to get rid of us altogether, by taking the 'Plover' with her into the ice, in lieu of her legitimate Consort, had she arrived before us. Under other circumstances, her loss could not but be a matter of regret to us; and I am sure I truthfully represent the feeling entertained by my late messmates—the officers of the 'Investigator,' when I state, that for Captain Collinson and his officers, we had learned to entertain feelings of esteem and regard, from our intercourse when fitting out the ships. The special character of the service, the mutual interests existing, and that strong feeling which ever exists amongst men engaged in a hazardous enterprize, had strongly bound us together, and it was to us a matter of regret throughout the voyage, that the conduct of our Consort was so much at variance with the kind feeling existing between the officers of the two ships. In support of an opposite view of the case, it may be stated that ships make a better passage when not in company, which I am not at all disposed to admit as a rule; but assuming it were so, it could not in our long voyage have made a difference of more than a few days. This is a trifling circumstance, when compared with the good results likely to accrue from that hearty co-operation and mutual support, which ships in company can afford to each other; and its necessity in Polar

Service, had been hitherto fully understood and appreciated.

We were all, therefore, naturally much elated at the singular good fortune that had befallen us, in having made one of the fastest passages on record from the Sandwich Islands to Cape Lisburne (twenty-seven days); and despite the many misfortunes we had met with, not only to have done all, but more than all, that was expected from us. We had now attained a position which the Admiralty, and the most sanguine of our friends in England may have ardently wished for, but there existed little prospect of its being so literally fulfilled as it was on the 1st of August.. We therefore indulged in the hope that, with such favourable prospects before us, and so timely an arrival in the Polar Sea, we could not fail to do much towards advancing the object of our noble expedition.

On the 1st of August, the breeze had freshened to the force of a gale, and was not quite favourable for us; but towards morning it had entirely subsided, with every indication of fine weather. All were anxiously looking out for the first appearance of the ice—the crow's nest, therefore, was seldom without an occupant; and as daylight was then persistent, there was no period of darkness to interrupt our view, or the anxious interest we felt. The hour of midnight came, but one felt but little inclination to seek repose. This was to me, the most enjoyable

period of the day—all work on board had, of course, ceased—everything was still and quiet—the watch only on deck reclining leisurely about, ready for action at a moment's notice; all, in short, hushed to silence, save the low murmuring of the wind, and the wash of waters from the ship's progress: it was therefore difficult to conceive that midnight had arrived.

As the sun approached the horizon, towards midnight, the aspect of the heavens was truly beautiful, when at twelve o'clock, his lower limb partially dipped, and again slowly ascended on his course; or rather, our orb revolving on its own axis around him. The sky to the eastward, at the time, presented a most splendid appearance—a wide belt of refracted light extending along the horizon, resolved into its prismatic colours, imparted a degree of beauty to the heavens I had never before witnessed, and from the gorgeous and brilliant yet varied tints of colouring so wonderfully displayed to view, could not possibly be surpassed. The moon, at the time, was rising slowly in the same quarter, but quite obscured by the surpassing brilliancy of the novel and beautiful phenomenon I have mentioned, which can only be seen in this way in the frigid regions of the north.

CHAPTER IV.

Enter the Ice—Its Appearance, &c.—Walruses—Progress and Incidents—Currents—Temperature—Approach the Land—Meet 'Plover'—Esquimaux Graves—Point Barrow rounded—Position and Appearance of Ice—Tides and Currents—Aspect of Ice—An Icy Scene—Cruising in the Pack—Difficulties and Incidents—Regain the Coast—Its Difficulties and Dangers—Boats towing—Encounters with the Ice—Reflections—Ice and Water—Character of former—Sunset over Ice—Point Drew—First Interview with Esquimaux—Their Visit to the Ship—Incidents—Barter—Women—Boats—Incidents and Character of Esquimaux—Visits from several Tribes—Approach Point Pitt—Landing—Deposit a Record—Mounds—Ship grounded—Difficulties of our position—Colville River—Jones's Islands—Visit to them—Esquimaux—Interview—Incidents—Thieving, and Visit to the Ship—Means adopted for recording our Visit—Progress—Temperature of Air and Water.

At six o'clock on the morning of the 2nd of August, "ice a-head" was reported from the crow's nest—soon after which many an eager eye was directed to the white line, then visible on the northern horizon; and as we advanced towards it, the sea presented an

aspect truly novel to the majority of us, as the detached masses of ice, in forms the most picturesque, were majestically floating down in our direction. As we stood on, the breeze gradually became much lighter, and the temperature fell several degrees—that of air to 38°. The masses of loose ice became more numerous, and in proportion considerably greater than before. Large pieces coming in our course were cleft by the ship, producing a slight shock, a grating noise, and an equally strange sensation amongst us, as the fragments having been partially submerged, were dashed on either side, while the breeze bore us steadily along.

The main pack soon became visible; and chilling as was its aspect, I am not sure that we did not hail it with a cheer. It was reached about noon, in lat. 72° 1′ N., long. 166° 11′ W. And thus were all our ardent hopes at length realized, which caused a degree of cheerful excitement amongst us not easy to be described. It certainly presented a formidable appearance, for this lofty, impenetrable barrier extended across our path in a line from N.W. to S.E., much heightened by the refractive power of the atmosphere, together with the uniformity of surface which ice generally presents from the fragments not being entirely clear of each other, although it may be quite navigable, and what is termed loose-sailing ice. This, however, can only be determined on by a near approach. We continued tacking to and fro in loose

ice until the edge of the pack was reached, which was much more distant than we at first supposed. The mass had lost nothing of its heavy impenetrable character on actually reaching it. The wind having become light and variable, as we had got into one of the innumerable indentations of the pack edge, we might have some difficulty in extricating ourselves, were it suddenly to change to the southward. It was, therefore, considered judicious to work the ship out again; and for the rest of the day we continued tacking along its edge.

We were surprised by seeing numerous herds of Walruses (*Trichecus Rosmarus*) grouped together on the large detached masses of ice, drifted off from the pack, apparently asleep or basking in the sunshine. The novelty of a sight so unexpected was gladly welcomed, and various and amusing were the opinions given by the men who had never seen them before, as to what they could possibly be, while they gazed in mute wonder and amazement at the strange sight before them. They did not exhibit any feeling of alarm as we approached; one or two could be seen dropping into the water, but it was not until we had got within a few yards of them, that, as if by preconcerted signal, they rolled or tumbled into the sea, and for a time became invisible. They appeared to live in perfect harmony, and as they lay huddled together, a lazy listless air characterized the whole. I could not but admire the affection displayed by the dam for her young,

which were crawling on the maternal back as we approached; but the moment the mothers perceived the danger, they seized them under their arms and disappeared; nor did we see them again at the surface, until there existed no cause of alarm. We might readily have shot or captured several, and a six pounder gun was loaded for the purpose, but was not fired—one was, however, wounded by a rifle ball. The meat of these animals is excellent, called by the old sailors "*marine beef*"—a supply of which would have been not only acceptable, but very beneficial to our crew; and we regretted our not delaying a little for what might have been so easily obtained.

For the next few days we continued following the trending of the pack in loose sailing ice, in an east or south-east direction, in the hope of our turning its southern extreme, and thus making way to the northward; but numerous were our disappointments, as taking advantage of every opening that was presented, we followed its course only to be arrested by the impenetrable pack, at the bottom of the deep indentations so frequent along its edges.

At times we came heavily in contact with detached pieces through which the wind did not enable us to force our way. On the first occasion when it became necessary to send some of our men on the ice to assist us, great was the rivalry manifested as to who should first touch its surface; but after a considerable display of agility, the honour was

claimed by the Boatswain. The Walruses were still very abundant, but as we proceeded to the eastward gradually disappeared; the depth of water which they frequented varied from 24 to 37 fathoms. Since leaving Cape Lisburne, we ascertained that a current set N. ½ W. about fifteen miles in twenty-four hours; and it became a question amongst us, how far it would aid us, were we to proceed along the northern shores of Siberia, and make our exit from the Polar Sea *vid* Spitsbergen; but we had no intention of trying the experiment, indeed, even at that early period of the voyage, freely indulged and expressed the hopes we entertained of quitting Polar Sea by the more legitimate route of Barrow's Strait and Baffin's Bay.

On the evening of the 3rd, the temperature fell to freezing point for the first time. Throughout the day it varied much, together with sea water—from eight to twelve degrees. Light ice formed on deck and in the rigging; although the navigable season in these regions is considered to commence about this period, and in some seasons even much later.

From the general state of the ice, and the frequent abortive attempts we had already made to get to the northward, that had cost us much time and trouble, it was determined to pursue a course towards the American coast—thus, following the trending of the pack edge, round its southern extreme, there being every probability from the direc-

tion of the winds, that water intervened between it and the shore.

On the morning of the 5th, it blew a gale from the south-west, which soon brought us in sight of the coast. About the same time a sail was observed on our weather beam, standing to the westward, and although the morning was foggy, she was sufficiently near to enable us to recognize and exchange numbers again with the 'Plover;' but we were too anxious to take advantage of the fair wind, to stop to communicate. She was, doubtless, cruising in expectation of the return of her boats, which she had previously informed us had gone along the coast, with a view of ascertaining the truth, concerning a rumour they had heard, of a party of white men being engaged in building a boat on the coast to the northward, subsequently found to be incorrect.

We soon approached the land, that presented the appearance of a continuous bank of shingle, having an outwork of dark rocks here and there along the water's edge, near one of which on the coast north-east of Point Franklin, (that takes its name from the brave and gallant officer of whom we were in search,) we observed several mounds, into each of which poles were inserted; to account for this strange appearance our ingenuity was severely taxed. At first, we supposed them to indicate provision depôts, but the interpreter pronounced them to be graves, it being the custom of some tribes of Esquimaux to

mark their places of sepulture in this manner. We were then pursuing a north-east course running for Point Barrow, having previously sighted the Sea-Horse Islands, and the various points of coast laid down on the chart. At this time high, indeed, were our expectations, and ardent our hopes that ere many hours could elapse the dreaded Point Barrow would be rounded in safety. The passage around this well-known and remarkable feature of the coast, had been but recently pronounced impracticable for a ship, by Commander Moore of the 'Plover,' in a published dispatch to the Admiralty, the accuracy of whose observations and judgment we were then about to test.

At 1 P.M. the ice was reported from the mast-head, as extending right across our path, but sufficiently loose to sail through. On approaching we found it a stream of floe ice detached from the main pack, but forming an ineffectual barrier to our progress. We entered it with a fine breeze, and a crowd of canvas, and after receiving sundry hard knocks, and inflicting destruction on all the decaying fragments that came within our reach, we again entered clear water, and altered course more to the northward, following the line of ice.

During the remainder of the day, we were sailing through a field of loose ice, but as the breeze had fallen light, our progress had much diminished since the morning. We anxiously looked out for the land, which we had previously lost sight of; towards mid-

night, it could be discerned from the mast-head; the low Point Barrow far in the distance, but still indistinct from the fog then rising on the eastern horizon.

We had on this day felt considerably the effects of the tides or currents, and in clear water streams could be observed well defined by a rippling outline. The latter appeared to set at times in different directions S.W. and N.W., and at 8 P.M. we found it setting steadily to the south at the rate of two miles per hour; doubtless influenced much by the physical aspect, not only of the land, but likewise of the numerous projecting points or promontories, and also the indentations that the widely extended ice pack everywhere presented; between which and the land, and through a highly picturesque field of loose ice, a light breeze from the westward still bore us along. Several Whales (*Balæna Mysticetus*) and Seals (*Phoca Vitulina*) were seen during the day, and soundings varied from 14 to 73 fathoms in mud and sand, with broken shells at intervals.

Throughout the night we had kept away to the N.N.E. and more off the land, which, early the following morning, (the 6th) was still faintly discernible. Sailing through loose ice with a tide or current at the same time setting us to the northward, with greater force than was observable, we found ourselves by meridian observation in lat. 71° 35′ N., long. 155° 12′ W. We were thus farther to the

northward of Point Barrow than we intended to go, and to our great joy, had successfully rounded this hitherto much dreaded point of coast, the alleged impracticability of which we had then fully refuted. The 'Investigator' then floated in strange waters, where no ship had ever preceded her, and commenced the navigation of a hitherto unknown and unexplored sea.

The wind had entirely forsaken us as the day advanced, and we lay becalmed, surrounded on all sides by loose ice, in which there was every probability of our being beset, should a fresh breeze from the south-east not come to our rescue.

The position from whence these fears were entertained, could scarcely be supposed to have existence in the frigid regions of the north, from the picturesque beauty and loveliness of the scene which then met the eye; but when I say that ice and water alone contributed to form the landscape, it must be equally difficult to fancy that these elements could so closely imitate true lacustrine scenery. We lay with all our canvas set, hanging sluggishly from the yards on the glassy surface of a sheet of water some two or three miles in diameter, apparently ice-locked. The sun shone forth brilliantly, imparting to us all, the delightful warmth of his rays, and to the icy regions in the distance, that peculiar splendour produced by their reflective power in a highly refractive atmosphere. Masses of snow-white ice, in form

resembling little islands were interspersed around, with intervening spaces of water. Numerous as they were, there was light sufficient to display the outline of each as they floated motionless on the surface of the sleeping sea, with the distant and uneven pack all around, forming a land-like but ice-locked boundary, resembling one of our own northern lakes in its wintry garb. There a vivid imagination might readily have taken a flight far from the Polar Sea, in contemplating the icy scene which surrounded us, the novelty of which was only surpassed by its beauty.

We were then fairly in the pack, with a sea of loose ice floating everywhere around, as far as the eye could reach from the mast-head. It was our object to make the land again if possible, and the obstacles which then presented themselves were of no ordinary nature. A light air had sprung up from the southward, that compelled us to tack to and fro in the narrow channels between the floes. It soon afterwards freshened considerably, and ultimately increased to the force of a moderate gale from the south-east. Our situation then became very critical, as the wind blowing off the land, and aided by currents, brought all the loose floe ice rapidly down on the main body, in which there was but too much reason to fear we might become beset. We, therefore, took advantage of the breeze, and stood on our course to the E.N.E., through heavy, loose fragments, but were soon obliged to tack to W.S.W, owing to the obstruction

offered by a great field of impenetrable ice, which, to have come in contact with, might have been our destruction. We continued working the ship close-hauled, alternately to the N.E. and S.W., endeavouring to make the land, and get clear of the perilous position in which we were placed, from the rapidity with which the ice was then setting down on us.

It was quite appalling to observe immense floes coming on towards us, as we sped our way through the narrow channels of water that separated them from each other; some of which were almost magically closed as we approached them by the junction of these ponderous masses, propelled onward as they were by the united power of wind and currents. It became, therefore, a matter of no small consequence, not only to direct the steerage of the ship, but demanded the utmost alacrity and expertness in working her, as the delay of a moment might have been attended with consequences fearful to contemplate. We had the most convincing evidence how formidable was the character of these huge floating masses, and what the result would have been, either of striking them, or, still worse, of being caught in their embrace. Some fragments it was impossible to avoid, and, as the ship struck them from time to time, the shock was tremendous, and vibrated through every timber of her solid framework—even endangering the safety of the masts; and it was only by an effort, that any one could maintain his equilibrium on deck. Towards midnight

our satisfaction was great, on finding ourselves in more open water, and in observing the floes less numerous. At this time the loom of land was reported from aloft. The force of the gale had evidently passed. During its continuance, accompanied with rain and sleet, it imparted an appearance of grandeur and wildness to the scene difficult to conceive; but so perfectly ice-locked were we, and so circumscribed was the area, that it could not exercise its power. Its surface was barely moved by a ripple; and anxiously did we watch for the slightest swell of the sea, or heaving of the ship, as evidence of our approaching the open water.

In the course of the following morning (the 7th), the wind had quite died away, leaving us again becalmed, and surrounded by heavy ice still drifting to the northward. This was considered favourable, as we hoped to find a greater space of water in shore, and to reach it were making the most strenuous efforts. All our available boats were at once called away to tow—the first time we had recourse to this tedious operation—there being only a few men left on board to work the ship along the narrow and tortuous channels through which we wended our way. All cheerfully lent their aid, wherever it could be available, to facilitate our progress, and free us from our difficulties.

The boats were of great service, and never did men work with more zeal or energy. It was quite delight-

ful to see each boat's crew exciting the other to increased exertion, when they saw the slightest appearance of the stroke of the oar being less vigorous than before, by some amusing, jeering observation, generally received with a loud laugh, or a hearty cheer. Nor were we less occupied on board, it requiring the exercise of all our skill, not only in the steering, but in tacking and trimming almost incessantly to keep clear of the ice, with which, despite our best efforts, we frequently came in contact. We thus continued our slow advance throughout the day, when at 8 P.M., the low land of Point Drew became visible to the N.N.E., five miles distant; and about two hours later, we had cleared the limit of the ice, and joyfully hailed our return to the coast, between which and the ice there was then a considerable space of water.

There was now a universal feeling of pleasure experienced as we found ourselves thus far in an unknown sea, having escaped from the perilous position we had been placed in during the few preceding days; and as it was the first time we had come in actual conflict with the foe, we had good reason to be pleased with ourselves.

It was generally remarked that the character of the ice was much more heavy than that generally met with on the eastern side of the Polar Sea. A few small icebergs were met with, formed in a great measure from packed ice, that seldom exceeded thirty or forty feet in height, floating amongst the floes.

Since rounding Point Barrow the water gained in temperature, but steadily decreased in density, having fallen from 1012 to 1008 in twenty-four hours, as we approached the land; and it had likewise become brackish and discoloured from the admixture of fresh water flowing from the numerous tributary streams along the coast. As the sun touched the icy horizon towards midnight, he presented the most splendid appearance I have ever witnessed, and one on which the naked eye could barely for a moment rest, owing to a dazzling brightness surrounding the disc. It was free from those gorgeous and varied tints I have previously noticed, and now presented one vast sheet of silvery flame, illumining the horizon with a degree of magnificence to be seen in no other region of the world. It is one of those compensating sights icy regions alone can furnish, as the beautiful effect was entirely produced by the reflection of the sun's ray's from its snow-white surface.

About one o'clock on the morning of the 8th, having reached within three miles of the shore, the depth of water being then only five fathoms, it was not considered judicious to go much nearer. It was then resolved to record our arrival off this part of the coast, and erect a landmark on the most prominent point. Accordingly, Mr. Court (second master), myself, and the interpreter were despatched in the third whale-boat for this purpose. The morning was cold, clear and fine as we approached the land,

when, about a mile distant, we saw an object which we thought was a beacon, and pulled steadily towards it. Presently a second appeared in sight, and subsequently a third, which left no doubt on our minds that we were approaching an inhabited land; but whether these objects were Esquimaux, or some of our lost countrymen, created a feeling of extreme anxiety amongst us, and our men gave way at their oars even more lustily than before, that the question might be speedily solved.

This was soon accomplished to our entire satisfaction, by the three figures suddenly taking to flight, which left no doubt of their being Esquimaux; we therefore prepared ourselves for this our first meeting with these people, not knowing whether it might assume a friendly or hostile aspect. The poor creatures still continued their flight, occasionally stopping, in evident amazement not only at our approach, but apparently still more so at the 'Investigator' in the offing; until, in one of their pauses, we stood up in the boat, and held up our arms—the usual sign of friendly intentions amongst them. We had no sooner done this than they assembled evidently in consultation, and answered the signal without delay, remaining stationary.

We at once landed, and having called out to them words of peace in their own language, we approached; they timidly met us, and in a few minutes we were rubbing noses—the customary mode of friendly

salutation with them—about the most filthy race on the face of the globe. We won their hearts by presenting a little tobacco, and then commenced conversation. They were cheerful and good humoured, answered questions readily, but could not keep their eyes from the ship, which was to them an object of the greatest wonder. They had no word in their language to express an object of such magnitude, and from seeing her move, thought she was a great living island. From the time of being seen, the 'Investigator' had caused extraordinary consternation amongst the tribe, encamped but a short distance, as they said, from where we were.

We could not obtain much satisfactory information regarding the ice, owing to their inability to compute time, and their having no more knowledge of its periods than what is expressed by the cold and hot season; but we understood there would be open water on this part of the coast for two moons. They had seen the boat party from the 'Plover,' the previous year, on its way to the Mackenzie—and this was all the information we could obtain; no other white men had been seen on the coast. Their trade is carried on through another tribe of Esquimaux, with the Indians, who are in direct communication with the Russian Fur Company; but they had never seen any people like us before. They had only been there a few days, having come a journey of five days duration from the south, as they leave the coast on

the approach of winter. They were very anxious we should visit their encampment, and offered to procure us reindeer meat, some of which they had with them; but our taste for venison became suddenly impaired, as one of them drew a piece from his breast, that had been in contact with his skin, and offered it to us to eat. Time did not admit of our visiting their abode.

Having erected a mound, in the centre of which we placed a pole, and deposited a bottle with a record of our proceedings, ten feet to the magnetic north; a gun from the ship told us of their impatience for our return, that advantage might be taken of a light favourable breeze which had then sprung up. We bade the Esquimaux a friendly adieu, and invited them on board—some of our men again indulged in their taste for rubbing noses, evidently fascinated by its novelty.

Point Drew is a low flat promontory, the soil blue clay with a stratum of fine peat superimposed from ten to twelve inches deep; it was found frozen about fifteen inches from the surface. The country appeared generally flat, but covered with a rich luxuriant pasturage, with occasional pools of water interspersed over its surface, and is no doubt frequented largely by reindeer. On reaching the ship, we were much surprised to find a 'baidar' or native boat alongside, and several Esquimaux on board, both men and women, who had arrived during the period of our absence. They

were a lively party, appeared wonderfully surprised at what they saw. Nothing seemed to excite their admiration so much as the gong which was beaten for their amusement; and some of them went up the rigging quite fearlessly as if accustomed to it. We distributed presents amongst them consisting of knives, scissors, beads, and tobacco; they gave us in return a few skins, and some articles of dress, coats, mits, &c. Bows and arrows, with barbed ivory spears, appeared plentiful, and with that ardent desire for novelty which sailors ever exhibit, they met with ready and liberal purchasers. They took their departure evidently much pleased with their reception, having promised to be friendly to any white men like ourselves who might visit their country. The baidars appear well adapted from their lightness and buoyancy, for river or shallow water navigation, such as the coast presents. They are flat bottomed, constructed something in the form of a yawl, with skins from which the hair has been removed, over a frame work of wood—when this cannot be procured whalebone is substituted. They are in length about twenty-four feet, with a breadth varying from three to four, with seats across as in our own boats. They manage them with much skill and dexterity, and the paddles which are always in the hands of the women, propel them with great celerity through the water. They had not long left us when a second party came alongside to barter, but were much more timid than

the others—even appeared afraid to trust themselves on board; however a little persuasion soon overcame their apprehensions, and a brisk trade was at once opened, in which they displayed great acuteness and tenacity in making bargains. We made them several presents, and they left us, perhaps, as little favourably impressed with us as we were with them, as they evinced nothing whatever of a friendly character; the desire of gain alone appeared to influence them.

The wind being very light, our progress was consequently very slow; and, for the remainder of the day, several baidars came off to the ship, full of people who stepped on board most unhesitatingly, as if accustomed to ship visiting. Traffic was evidently their object, which was maintained with great activity. Tobacco and knives were the articles most highly prized. It was singular to witness the avaricious spirit they manifested on all occasions; nor did they care to acknowledge on our part the right of ownership—numerous and amusing instances of which occurred. One of them, observing the Captain's back towards him, adroitly attempted to pick his pockets, but was caught in the act, and duly admonished, I fear with but little effect. Another, having sold a deer-skin to one of the officers, observing where it was placed with other articles he had purchased, watched the moment when we were all engaged, and re-sold it to the sergeant of marines, on whom, I believe, a similar trick was played; and

ultimately it passed into the hands of a third party. Having been thrice sold at more than treble its value, it had realised a handsome profit for its owner. The circumstance was not discovered until the two first purchasers came to look for their property, which afforded much amusement; and the boats having previously left, there was no redress. Indeed, we all required to exercise the utmost vigilance, as the Esquimaux made every possible attempt furtively to regain what had previously belonged to them; and no doubt could exist as to their strong thievish propensities.

The women had their infants with them; but a casual observer would fail to discover them. Their presence was only revealed to us, when the mother carelessly untied a cord which encircled her waist, allowing something, which we supposed was an article for barter, to slip down her back, and lifting the short jerkin which covered her body, seized it with the right hand, drawing forth by the feet a naked infant; adroitly giving it a turn, she placed it on her knee, and covered its body with a little fur jacket similar to her own. The poor little thing could not have been more than six or eight months old. It never cried in the least at this rough usage, but sat in perfect quietness on its mother's knee; and how it remained there I could scarcely conceive, for in the eagerness of barter it was entirely unheeded. In due course, the infant was divested of its little covering, and placed in its former

position on the mother's back; the cord tied, and no further evidence of its presence could be obtained, except when its little head occasionally protruded from its hiding-place.

There was one baidar which contained women only, several of whom came on board, looked about attentively, but gave little external evidence of surprise. They had an animated and more intelligent expression than we had seen others of their sex possess, added to a great display of cheerfulness, conversing in a most lively manner amongst themselves. Being desirous of ascertaining their stature, they readily submitted to my measuring them, which appeared to afford them much amusement. They were tatooed on the chin, having a vertical line about half an inch broad in the centre, extending from the lip, with a parallel but narrower one on either side of it, a little apart. Some had two vertical lines protruding from either angle of the mouth; which is a mark of their high position in the tribe. Their hands, notwithstanding the great amount of manual labour to which they are subject, were beautifully small and well-formed—a description equally applicable to their feet; and their teeth, white and regular, were displayed to considerable advantage in the hearty laugh in which they frequently indulged. As these women formed a party of themselves, unaccompanied by men, they demanded all our politeness and gallantry. We made each of them

presents, with which they seemed much pleased. One of them was good enough to present me with one of their Fetishes, an ivory badge which the Esquimaux ever carries with him in his hunting and fishing excursions, as the only power they acknowledge of being able to afford them success; for, I regret to say, they are utterly ignorant of the existence of a Supreme Being. It is about four inches long, and has generally some rude carving of birds or animals on it. They left us with every demonstration of friendship, and paddled their baidar with great alacrity to the shore. We observed that the knives they had were made out of files, which we presumed were obtained in trading with the Indians. Some of the men had labrets, a disgusting ornament worn on the lower lip.

The wind still remaining light and unfavourable, we continued working the ship to the eastward, between the ice and the shore, in water varying from five and a half to three fathoms. The latter could not be approached within two or three miles, as the ship's draught of water was upwards of fifteen feet. The difficulties of the navigation may be easily imagined, we having no charts with the soundings marked to guide us; the ice on one side, and the lead-line on the other were all that we had to depend on.

At 8 P.M., when working up for Point Pitt, which bore S.S.E., ½ E. the ship took the ground, the water

having suddenly shoaled to two fathoms and three-quarters, and plentifully stirred up the mud. As it was a soft bottom, unpleasant as our situation was, we expected to have her soon afloat again. The only thing to be feared was, a sudden change of wind, bringing the ice down, which was then ominously frowning on us, at no very great distance. Anchors were laid out as expeditiously as possible, and hove on with all our available strength at the capstan; and we presently had the gratification of seeing our efforts attended with success, and the ship again in motion.

As we approached this point, several conical-shaped mounds were observed, resembling cairns, standing out in bold relief, with a fine clear sky for a background, leaving no doubt in our minds as to their artificial origin, when contrasted with the uniformity of the low, flat surface everywhere around. When about three miles distant, Lieutenant Cresswell and myself were despatched in the second whale-boat to examine them. On reaching the Point, we found it detached from the mainland, a narrow channel separating them, the soil rather swampy, and vegetation less luxuriant than elsewhere. The mounds that presented such a lofty appearance at a distance, gradually diminished into comparative insignificance as we approached, and proved to be small heaps of earth about three feet high, which the refractive power of the atmosphere had increased to about forty feet.

On examination, they proved to be nothing more than Esquimaux store-houses for the products of the chase, containing the bones of animals, with other evidence of the locality having been at one time their resort. Old traces of encampments still existed in many places.

A mound of earth was erected, in the centre of which we placed a board with the broad arrow painted on its surface, and a record of our visit deposited ten feet to the magnetic north. While this was in process of erection, I proceeded to the opposite side of the point, where I found an indentation of the coast, forming one of its numerous crescentic-shaped little bays. I was surprised at the vast quantity of driftwood accumulated on its shore, several acres being thickly covered with it, and many pieces at least sixty feet in length, the trunks of fine trees. I made a hasty examination with a view of discovering any remains of a boat or wreck, but without success. Our work being completed, we reached the ship in safety soon after midnight. Our return was rendered pleasant by contemplating the magnificent appearance of the sky to the westward, tinted as it was by the most brilliant crimson I ever beheld.

In the next few days, the difficulties of the navigation were much increased by the addition of fog, together with foul wind and currents. We had not even the land always in sight; yet we crept along, reached Harrison Bay on the 9th, when the altered

appearance of the water, which had nearly lost its saline character, having only a density of 1000, told us of our being within the influence of the River Colville.

On the 10th, we were off the entrance of this river; and the wind which had increased to the force of a gale, with rain and snow, was then anything but acceptable, as we could see but little distance before us. We were constantly coming in contact with grounded pieces of ice; the only evidence of their proximity being the noise of water dashing against them. Although the area of open water had then increased, yet we knew not the moment that our progress might not be arrested by some hidden shoals in this unknown sea. The temperature was barely above freezing point, usually ranging from 34° to 37°, and everything wore an aspect tempestuous and dreary as we still, surrounded by difficulties, continued on our way.

Early on Sunday morning, the 11th, an island was observed E. by S. of our position, which proved to be one of Jones' islands; and, as we approached, something resembling a cairn, with a pole in its centre, was discernible. At 4 A.M., Mr. Court and myself were dispatched, when about three miles distant, to examine it; and the morning being boisterous, cold and foggy, we had a long and cheerless pull to its shores. On reaching it, we found the island to be about five hundred yards long, and about half that in breadth

entirely composed of sand and shingle, with great quantities of driftwood strewn on its surface, which, together with the combined action of the ice and currents had doubtless led to its formation. What appeared to be a cairn when viewed from the ship, was nothing more than a small pile of driftwood, with a spar, about twelve feet long, placed vertically in its centre, which left no doubt in our minds of its being the work of human hands. As we approached in the boat, I fancied that I saw two figures in motion; but distance and the fog then present did not enable me to speak with certainty; nor could I discern any footmarks on the sand in support of this opinion. On examining a large piece of ice, some twelve or fourteen feet high, which, from the effects of pressure, had been forced on the beach, its surface having the appearance of being trodden on, with sand strewn on it, left no doubt on my mind of there being Esquimaux in the vicinity.

After thoroughly exploring the island without any satisfactory result, we erected a mound of earth, and having deposited a bottle containing a record of our visit, we took our departure and returned to the ship. We saw numerous flocks of ducks at a distance, and the several pools of water in the island were the resort of the Little Sanderling (*Calidris Arenaria*)—we shot several specimens. Soon after coming on board, several Esquimaux were seen approaching the island in baidars, who in all probability had been watching

our movements concealed behind some of the heavy grounded ice in its vicinity—confirming the opinion I had entertained of their presence. They were soon observed in swift pursuit; but as we were then standing out towards the pack, we were in loose-sailing ice before they reached us. They were at once subject to the usual interrogatories with respect to the appearance of white men off the coast, but nothing satisfactory was elicited. They appeared a better class of people than those met off Point Drew. They said that on hearing shots fired in the direction of the island, they immediately left their encampment on the main land, and proceeded to it, where they saw our footmarks, and the ship in the offing. These people supposed we had come for trading purposes, and appeared to doubt our veracity when informed that we were then in search of lost brothers, whom they were desired to assist should they appear on the coast.

Love of barter, and an avaracious spirit alone prevailed amongst them, and they had evidently come off prepared for opening an extensive trade, from the amount of property in skins they had in their boats, the best of which they concealed that the worst might be first disposed of. We procured from them a good quantity of fish, wild ducks, a few furs, bows and arrows; the former were at once issued to the crew, and proved a welcome addition to their daily fare. Tobacco is an article much coveted amongst them, a

piece about two inches in length, was considered equivalent for a fish, but observing some of us cut a stick into two pieces, the wily Esquimaux immediately cut his fish into two portions, and offered them for barter on the same terms. A dense fog coming on, they were afraid of losing their way, and speedily betook themselves to the shore, from which they seldom venture to any great distance.

For the remainder of the day, we continued working our way under the same adverse circumstances as before. Towards evening, the fog having partially cleared off, a low flat island was observed to the E.S.E., and as we approached, a number of Esquimaux could be seen running to and fro in evident consternation and amazement. We stood in as close as we could, intending to communicate, in the hope of obtaining a supply of reindeer; the number of people justifying the belief that their encampment might be on the island. It was considered judicious that every precaution should be taken to guard against treachery or surprise; a cutter and whale boat were accordingly manned and armed, in which Captain M'Clure, Lieutenant Creswell and myself, accompanied by the interpreter, proceeded to meet them. As we approached, they made the usual signal of peace, which we duly returned; when we leaped on the beach, they came down to receive us, and we had to go through the customary operation of rubbing noses. They manifested a friendly disposition, and informed us

that their encampment was on the main land, so that we were disappointed in our hopes of procuring a supply of venison. They were evidently in conduct and appearance the best tribe of Esquimaux we had yet seen; they were also cleaner and better dressed. Their chief, Attawa, was a fine specimen of his race, above the average stature and generally intelligent. To him we entrusted a letter in a canvas bag, to be forwarded to one of the Russian Fur trading posts, but were obliged to tell him its contents, before he took charge of it—by way of reward for this we presented him with a white ensign hoisted on a boarding pike, which had excited so much of the wonder and admiration of his people, and made several presents to others. We had before remarked how seldom it was that we saw any articles of European manufacture in the hands of the several tribes we had met with, and were, therefore, rather surprised to see a gun with one of them, which was carefully wrapped up in skins. On examining it, the words 'Barnett London, 1840,' was engraved on the lock, and we were informed they had received it in trading with other tribes to the southward. Our conference had been carried on close to a large fire of driftwood they had kindled on the beach, to which they had invited us on our landing. When we left it, they escorted us to the boats, where the friendly nasal salutation again took place; they at the same time promising to visit the ship on the following day, with a supply of

venison. These people, like all others we had seen, were most astonished at the appearance of the ship, and entertained the same idea of her being a great living island. They watched us for some time, then took their departure for their encampment; the chief in the midst carrying the flag, with evident pride of being the bearer of so valuable a present.

Our progress during the night being inconsiderable, the island was still in sight on the morning of the 12th, when four baidars came alongside, filled with men and women. They came on board, and barter at once commenced, but instead of the supply of venison they had promised us, all we could procure from them were a few ducks, some fish, and skins of an inferior quality—all those of value I observed were kept in a mysterious looking leather bag, in strict charge of one of their party in the stern of the boat. The majority were strangers. That they are a thieving, cunning race there can be little doubt, and they would be equally treacherous and deceitful, were their cupidity excited by anything in the hands of a weaker party, notwithstanding the friendly demonstrations they might evince. Although several were yesterday the recipients of our bounty, two of them made most adroit attempts at theft, by taking articles of no less magnitude than the pump-winch and an ice-anchor. Our observation was attracted to this, by seeing a fellow stealthily leaving the ship with one of the winches partially concealed.

His boat was immediately examined, and the other was found concealed from view by a woman sitting on it. The thief was evidently an accomplished one, for we were all closely watching their conduct, and the sentry at the gangway had special orders to that effect; but their cunning and dexterity had quite baffled us. The fellow who attempted to possess himself of the ice-anchor, was caught in the act, it being rather unwieldy (about fifty-six pounds weight) to move readily, but he was not dismayed when detected. He was sent into his boat, and not again allowed on board. They took their departure for the shore, after continued attempts at thieving obliged us to send them out of the ship.

Considering it a desirable thing that some permanent record of our communication with the various tribes we had visited should be placed in their hands, as proof of our having gone along the coast, for our Consort or any other ship that might follow us, I suggested, on first meeting them, that the ship's name should be stamped on all articles we gave them, as far as our resources could effect it. I accordingly wrote it in large letters on the knives, with some corrosive agents in my possession; and the interpreter was instructed to inform them, that their success in the chase would much depend on its preservation. The carpenter (Mr. Ford) had also very ingeniously made some copper medals, similarly

marked, for distribution, and had likewise with a diamond written it on all the small looking-glasses—the latter being much prized, and an object of very great astonishment.

Our progress to the eastward being, much retarded by baffling winds and currents, we seldom averaged more than twenty or thirty miles a day. It may, therefore, be easily supposed how ardently we hoped for a leading wind; and, as it fell calm towards evening, fancied it might prove the harbinger of a change. The boats were lowered to tow, but were soon recalled, as we found the ice setting towards the shore, and through this we continued our slow advance. We sighted another small island in the course of the evening; and with the aid of our glasses saw a numerous herd of reindeer, and several birds, which, from their size and appearance, I considered to be the North American Crane (*Grus Canadensis*), the first of either we had seen.

Since we advanced beyond the influence of the Colville River, the sea-water had again become more saline, and risen in density to 1017. The temperature of air generally varying from freezing point to 40°—young ice forming nightly on the pools of water.

CHAPTER V.

Difficulties in working to the North-East—Ship secured to Floe-Ice—Archery—Cast off from Floe—Progress and Incidents—An Island discovered—Point Anxiety—Critical Position—Our Difficulties—Ship on Shore—Means adopted in consequence—Results—Again under Sail and Incidents—Boat capsizes—Loss of 3344 lbs. of Meat—Weather—An Ice Scene—The Pack—Our Position and State of the Ice—The resolution adopted—Fail. in effecting our escape—A Thunder Storm—Rain and Results—Endeavour to regain the Mainland—Towing—Incidents—The Ice—Its Difficulties—Operations—Success attending them—Ship secured to Ice—Appearance—An Ice Scene—The New Island—Its Features and Character—Incidents and Observations—A Bear Track—Whales' Skulls—Ship, her Appearance—Weather—Cast off from Floe—The Ice—Its Aspect, &c.—Reflections—Incidents—Progress, brighter Prospects and better Results—Hopes of reaching Banks' Land—Reflections—Appearance of Ice—Open Water—Course to the Northward arrested—Soundings—Position—The Pack—Alter Course—Weather—Make the Land—Towing—Results of running into Pack—Solitude of our position—Stand in for the Land—Tidal Line—The Water—Alluvial Deposition and Results—Islands—Weather and Difficulties of Navigation—'Plover's' Boats—Mackenzie River—Remarks.

Our position on the morning of the 13th was by no means improved. Our hopes of a fair wind had not been realized; we were surrounded by heavy floe-ice, and through its intervening narrow channels were incessantly tacking in vain endeavours to work to the north-east. As we could make no headway, and the weather towards noon becoming thick and hazy, it was resolved to link our fate to a large piece of floe-ice, towards which the ship was warped and secured for the remainder of the day. Our first object was to obtain a supply of fresh water from one of the numerous pools on its surface. In one of them a small fish was procured, the water being perfectly fresh, and the pool only a few inches in depth, on the surface of a floe which averaged, at least, thirty feet in thickness. It was probably entangled while the ice was in formation.

We were all extremely glad to take advantage of the exercise which this icy field afforded us, after being so long confined on board, rough and uneven as was its surface, for there was scarcely a square yard of level space. We amused ourselves at archery with the bows and arrows procured from the Esquimaux. This was practised with a degree of zest equal to its novelty, for, I believe, there was not an arrow left in the ship in the course of a few hours. The evening closed in gloomy, dense and foggy. The ice to which we were attached having drifted very slowly to the N.W., we cast off from it on the following

morning, and made sail to N.N.W.—the only direction in which we could go—the wind still obstinately blowing from the N.E., with heavy, formidable looking congealed masses everywhere around. Towards noon a shoal was observed, S. 31° E., it had the form of a low sand bank, and was doubtless in process of becoming an island, in a manner similar to others I have mentioned, and from the action of the same causes. We still stood on, tacking frequently to avoid the frozen barriers that stood in our way, with which we frequently came into collision, and there could exist but little doubt that we were again in the meshes of the pack, which had been gradually setting towards the shore.

The depth of water varied from four to seven fathoms, and shoals were evidently numerous, as much of the ice was aground; our area of water was becoming more circumscribed, and the report from the crow's-nest told, that the heavy pack surrounded us on all sides. A low flat island was discovered not far from our position, but almost concealed from view, by an outwork of grounded ice on its shores; we then floated in a sort of basin, being the only water anywhere discernible, and from appearances we were soon likely to be furnished with the unpleasant experience of navigating an unknown and ice-bound sea. Our position at this time, was off Yarborough Inlet, between Point Anxiety and Return Reef—a memorable part of the coast, where the gallant Franklin

had some five and thirty years previous, cast his longing eyes to the westward, in vain expectation of succour, and from whence he commenced his return, baffled in the hopes he entertained of reaching Behring's Strait. That it was a Point Anxiety to us likewise, we soon became aware, to the increase of our perplexity. The water having been gradually shoaling, we found ourselves in three and a half fathoms, with not a shadow of hope of the pack moving off on either side for the present; our only chance of escaping the danger which threatened us, lay in our being able to round the northern extreme of the island I have mentioned, and anchor under its lee, until the ice afforded us an opportunity of getting again between it and the shore, and clear of the dangerous position in which we were then placed. With a view of ascertaining our ability to accomplish this, the second Master was dispatched to sound, and I accompanied him in the whale boat; we found water sufficient for the passage of the ship, and returned on board with this pleasing intelligence. The ship had been hove to for our return, sail was made and we proceeded towards the main pack as far as we could, so as to make a good stretch across for the island on the next tack—a boat at the same time sounding ahead of the ship—when from some cause or other, having deviated a little from the course indicated for us to follow, suddenly the ship struck on a sand-bank and grounded in two and a

half fathoms. It being considered we had got on the top of a bank from the soundings obtained ahead, an effort was made to run her over it, with all plain sail set; the boats were lowered to lighten her, and an anchor was laid out ahead and hove on from the capstern with all our available strength, but in vain. Persisting in this course, would only have increased the labour and difficulty of getting her off, as we found it impossible to move her over the bank, and were only fixing her more firmly in her position. An opposite course was, therefore, adopted. We at once shortened sail, anchors were laid out astern, and hove on, but with no good result; it was, therefore, difficult to say what we might not be compelled to do, or how prolonged would be the labour and exertion necessary for again floating her; and as we had been for five hours incessantly at work, it became necessary to refresh the men for the night's labour now before us. A ration of bread, meat, and spirits was issued, and it being then ten o'clock, fifteen minutes were allowed for eating it, when all hands were piped on deck—with cheerfulness and alacrity the call was responded to, officers and men were again actively at work, and no hand in the ship was idle.

All the provisions on deck, consisting of thirty-five casks of three hundred weight each, were hoisted into the boats, the heavy anchors were also taken out, which tended to lighten her a little. While thus engaged,

the ice which had been for some time setting down towards us in huge detached pieces, came in contact with our cables, and then fairly on our broadside, requiring the most strenuous efforts to keep them clear of the boats with the provisions, which might have been readily crushed between them and the ship. What was most to be feared, happily did not occur—the main body of ice setting down—as we knew that a slight impulse would determine it towards us, and the result under the circumstances would have been our total destruction. Orders were now given to have all in readiness for pumping out the water, about twenty tons of which we had in the tanks; but previously, the capstan was again manned by all hands, and the powerful effort which was then made, brought a cheering report from the leadsman astern, that she had taken two inches of the line, and had consequently moved.

This was sufficient encouragement to renew our efforts, and after their frequent repetition, we had the satisfaction of seeing success attend them, and our good old ship once more afloat and lively as before. Our labour was not then ended, the provisions, anchors, &c., had to be hoisted in and re-stowed; but having experienced the effects of a strong south-westerly current, it became necessary to set sail, to render the ship manageable, and better able to resist its effects which might again bring us into the same difficulty. While doing so, the boats heavily laden

were towed alongside, when the third whale boat was unfortunately capsized, and its contents, eleven casks of prime beef, deposited on a sandy bed in five fathoms water. We had thus lost no less than 3344 lbs. of excellent meat, which might have been obviated had the suggestion of one of the Officers been adopted, of towing this boat with the others to leeward rather than to windward of the ship, but from some cause not in my power to explain, this was not acted on, and bitterly did we deplore on many a subsequent day of hunger and want, the loss we then sustained. It was not until 4 A.M., that everything was safely on board, (*except our beef*) and we sought that rest for which our late exertions had well prepared us to enjoy.

The morning of the 15th of April was ushered in with delightful weather, contrasting forcibly with that of the few previous days—its balmy warmth and mildness being but rarely met with in these regions even in the height of its summer. The sun shone forth brilliantly, diffusing an amount of warmth which rendered our clothing almost too much for us; but whenever a passing cloud obscured his brightness, even for a moment, the icy chill was felt. There was scarcely a breath of air to curl the surface of the water, on which we sluggishly lay, surrounded on all sides by that terrific-looking pack, whose prisoner we then were. The formidable appearance presented by the ice was much heightened by the

wonderfully refractive power of the atmosphere, which, added to the extreme fineness of the day, produced an aspect of grandeur and peculiar beauty, that, even in our then forlorn position, one could not but view with feelings of intense admiration. The large floe pieces detached from the main body, presented a beautiful appearance from the spotless whiteness of their picturesque and singular surface. Such huge masses piled on each other could only have been effected by the most colossal force. On the more distant pack, refraction had exercised all its distorting power, making it appear a lofty, impenetrable wall of crystal, and, its outline, required but little effort of the imagination to trace out the forms of churches with towering spires, castellated mansions and edifices of various kinds, reflecting from their icy sides tints of iridescent hue: all produced by the larger pieces of packed ice, thrown together by a power that sets all human efforts at defiance.

We had not moved more than a few yards from our position of the previous evening, unless slightly to and fro by the partial currents which existed. Indeed, it would have been highly dangerous to have done so, from the shallowness of the water—only three fathoms and three quarters; or we might have had a repetition of our disaster. We were still close to the island we had discovered, when about 10 A.M., the Second Master, Mr. Court, in the third whale-boat, was despatched to sound, and endeavour to seek for

a passage that might lead us out of our unpleasant position. On his return about noon, his report was not cheering; and to run the risk of moving without some definite plan to act on, surrounded by shoals as we then were, with the chance of the ice setting down on us, would have been highly injudicious. One of two courses only remained for adoption, neither of which promised any cheering results. First, either to attempt to retrace our steps through the heavy loose ice we had so much difficulty in passing the previous day, but which might now be impenetrable, with the probability there existed of a change of wind setting the ice off shore, and immoveably fixing us in its grasp; or, secondly, to anchor even in the shallow water we were in, being in sight of the mainland, as the lofty range of the Franklin Mountains were discernible, and await whatever change might occur in the elements, to drive the ice off shore, and enable us to get between it and the land once more, which certainly appeared the most advisable course for adoption. About 1 P.M., the Captain and the Second Master proceeded in the third whale-boat, with a view of seeking a passage, through which our escape might be effected, but returned in the course of a couple of hours with no better intelligence—when it was finally determined to anchor where we then were; and the best bower anchor was let go in three fathoms and three quarters, thus to await whatever fate might befall us.

The progressive fall in the barometer for three successive days, led us ardently to hope for a change of wind with the anticipated change in the weather, which we then anxiously awaited. Towards evening, the clouds hung heavily on the windward horizon, the sky became overcast and lowering, and had assumed a highly electric appearance; and the air was close and oppressive. This state had scarcely been established, when vivid flashes of sheet lightning shot forth, preceded occasionally by thunder, neither loud nor prolonged; rain fell heavily; and the vane at the mast-head told us that the wind had shifted into the south-west quarter. The lightning appeared to but little advantage from the presence of the sun; otherwise it would have been so much more effective in heightening the wildness of the scene. I could not but think that lightning with darkness in these regions would have presented an appearance of rare grandeur. With this change of wind, the temperature of air rose from 34° to 45°; and the water, from my last examination off Jones' Islands, had, in this short space, increased in density to 1025.

On the morning of the 16th we were still at anchor, the contiguity of the ice preventing us from taking advantage of the fair wind which had favoured us but for a short time, when it gradually died away. It had, however, set the inshore ice in motion, and materially altered its aspect—the loose ice

having fairly set down on us, opening to view narrow channels of water, where, a few hours previous, there was nothing to be seen but heavy impenetrable packed ice. We at once determined to take advantage of the change, and endeavour to regain the shore if possible. The anchor was weighed, and the boats called away to tow—a work of no light nature under the circumstances—and by their aid we continued to creep along until about 1 P.M., when the ice became so close and heavy, and the channels of open water so narrow, that the continuance of the towing became impracticable. The boats were, therefore, called alongside, and after the men had partaken of dinner, and been further refreshed with an extra allowance of spirits, the struggle was again renewed. The pieces of ice then around us were so large and ponderous, that many of them had grounded; between which and generally detached throughout this loose section of the pack, were smaller pieces floating, and almost entirely obstructing the narrow channel of water, that rendered other operations necessary for our advance. We, therefore, commenced forcing a passage by boring and warping the ship through them. Ice anchors, poles and hooks were had recourse to; the former laid out and well secured in the ice, were hove on from the capstan, the poles and hooks, at the same time, were in requisition to remove the smaller floating pieces that retarded our snail-like progress, while the Ice master, from the

crow's-nest, directed us into those channels or leads of water which appeared to present the greatest facilities for getting clear of our very awkward position. Thus we advanced through narrow, zig-zag channels, none of which were sufficiently large to admit a boat even without oars; and through narrow passes where the ship was forcibly thrust by the united power of us all. We, at length, got within thirty or forty yards of water much clearer than any other space that could be observed around, but with little hope of our being able to reach it, from the heavy and closely packed character of the ice, which was still setting down and curtailing yet further its already very limited area. Our difficulties then, indeed, appeared to augment as we gazed on the insuperable obstacles that lay in our path; but we went boldly and resolutely to work to grapple with them, and by a patient and persevering use of the means I have spoken of, and the zealous, energetic efforts of all, we had, at length, the satisfaction of seeing our exertions attended with the success we had hoped for, but could scarcely have expected, after seven hours incessant toil.

We had reached a small space of open water, through which the ship was then warped, by laying out ice-anchors, until we had got as far as it then seemed judicious to advance, and made fast to a huge mass of snow-white ice, grounded in four fathoms water, yet from fourteen to fifteen feet

high from the water's edge—the effect of pressure having thus forced it much above its line of floatation. It had a surface of about half an acre in extent, with a remarkably fine imposing outline; and here we rested after our recent conflict, being then unable to make further advance.

The evening was mild, clear, and serene, with not a breath of air, and the lovely yet frigid scene around us appeared to wonderful advantage; for an ice-bound sea presents, at times, features of peculiar and picturesque beauty, such as can only be seen in the cheerless regions of the Polar Ocean. There was a deathlike stillness and solitude, but associated with sublimity and grandeur reigning everywhere around, as I walked out on the ice and gazed in admiration on the icy scene before me. But there we were surrounded on all sides by regions of frozen water, shut out apparently from that arm of the sea that we yearned so much to reach, without any visible hope of escape, unless the aspect of affairs should wonderfully alter. The numerous inequalities of surface and irregularities of the pack added variety to its beauty; many ice islets floated about, and one, not of a different character, lay in our immediate vicinity. They were beautifully reflected in water of a mirror-like smoothness, apparently forming the margin of a great æthereal basin, for the canopy of heaven, with its rich blue sky, lofty and well-defined *Cirri*, found there an equally truthful and picturesque

reflection, and appeared as if contained within it. But what a peculiar feature the presence of our ship imparted to this scene as she then lay secured to a gigantic mass of that element, which had lately so often endangered her safety. She appeared as if a captive in its icy grasp, as no trace of our entrance into this isolated pond, nor any path whereby to effect our exit, was anywhere to be seen. So rapidly was the ice setting down on us, that we determined to remain in our present position, without attempting any further effort to advance; indeed this would have been utterly futile, until the morning, when we hoped for a fair wind and more open sea to facilitate our onward progress—the delay likewise affording us that rest, so much required, after a day of most laborious exertion.

Our contiguity to the island which had not been far distant at any time for the two previous days, induced some of us to forego sleep and explore it. From the great number of seals we had seen, we concluded that fish was plentiful; and, with a view of procuring some, we resolved to haul the seine. The third whale-boat, with a crew of volunteers from the ship's company was soon manned, the fishing gear in readiness, and a party of us proceeded to the shore. On landing, we kindled a huge fire of drift-wood; some commenced preparations for fishing, while others proceeded to explore the island, and took our guns in expectation of meeting with some of the

numerous flocks of ducks that had been observed. I found this island, like others I had visited, entirely composed of sand, shingle, and driftwood; its greatest elevation was not more than six or eight feet above water, its outline irregular, about three or four miles in circumference; in the centre was a lagoon of shallow water, and the beach was sloping, with the greatest elevation near the water, from the pressure of the ice forcing up the sand. The water was most shallow on that side nearest the coast of America, with which it will, in the course of time, doubtless, become continuous. It was quite devoid of verdure—a few tufts of saxifrage and stunted grass, the only trace of vegetation. The pebbles were chiefly of granitic character, with porphyry, clay-slate, mica-schist, ironstone, &c., all smooth, and much water-worn. We found two crania of whales, one lying on the surface, and the other partly imbedded in the soil; saw traces of foxes, and came on the recent track of a bear, where he had been feasting on the body of a seal but a very short time before. These we followed up in the hope of meeting with Bruin, as they were the first traces we had met with; but he had betaken himself to the ice. We came on a well-trodden bear path, which led us to suppose this island was a frequent resort of these hoary denizens of the north, with some of whom we longed to have an encounter. As it was approaching midnight, we retraced our steps towards the boat—the blaze of the huge fire burning brightly in the distance

affording us a good guide across the sandy waste, on which the foot of man had never before trodden. The fishermen had no success; and we had only shot a few Ducks, the Eider and Long-tail.

We soon embarked, and proceeded to the ship, distant about half a mile, and found a film of ice on the sea, which was the first appearance of salt water freezing we had seen, and evidenced an advancing season; its density was then 1014. The air had become cold, dense, and humid; and it was surprising the distance the voice could be heard, through an atmosphere that had become wonderfully refractive, distorting, in a surprising degree, every object in our view.

At 4 A.M. on the 17th, the ship was cast off from the floe, and we again commenced our advance by warping as before; but in the course of a couple of hours, having only made a few yards, the weather had become so foggy and the ice so close, that it was impossible to proceed, and we again made fast to a floe to await a more propitious state of things. Large quantities of ice having set down during the night to the north-west, we expected to find that which was the day before quite impenetrable, now loose sailing ice—but as yet in vain.

So fettered does the aspect of affairs become in a short time from slight causes in ice navigation at this season of the year, that the delay of a few moments may cause a ship to be immoveably fixed in drifting

fragments or a section of the pack without any means of escape; or, on the other hand, a change in the wind or in the direction of the current, may in an equally short space of time cause such an alteration in the character and disposition of the pack, that instead of an appearance terrific and formidable, loose streams of ice become detached, and narrow channels of water formed—so varied and ever varying is its aspect. Thus fond hopes are indulged in, only to be blighted, and the bitterness of disappointment keenly felt, that the germ of reviving hope may be more gladly nurtured and made welcome when it comes. Feelings of anxiety, hope, joy, disappointment and terror, often follow each other in rapid succession, and thus keep the mind in a state of constant excitement. Ice navigation is, therefore, the school for testing the powers of patience and endurance, and calling into activity all the perseverance, energy, judgment and daring that men are possessed of.

As there was every probability of the ship being momentarily placed in such a position, that the rudder might become damaged or rendered useless by the pressure of the ice; the crew were practised in unshipping it, so that on any sudden emergency, they might accomplish this with dexterity.

About 2 P.M. we were again under weigh, and made sail with a light variable wind from E.N.E.—the ice having become sufficiently open to admit of our making a few short tacks to clear the island. In the

course of an hour, the wind to our great joy veered round to the north-west, enabling us to pursue a course to E.N.E., the water at the same time increased in depth to six fathoms, and the change we had so anxiously looked for had at length taken place. The pleasure which we all derived from having the ship under canvass as a propelling power the first time for the previous three days, became enhanced, as she made good way through a loose pack with a favourable wind, in water as smooth as a pond. Thus a formidable barrier that existed but a few hours before, and one which no earthly power could overcome, was now happily removed by that Divine power who wills the course and might of all elemental forces, and cheerily did we then wend our way through heavy packed ice, heartily grateful for that interposition which had enabled us to do so.

We continued our progress for the remainder of the day, the impediments still diminishing; the ship occasionally sustaining some heavy shocks as the ice came across our path, causing all the bells to ring. This was then a source of amusement, elated as we were at our happy deliverance, particularly on casting a glance astern, and beholding the position we had occupied—an uninterrupted field of heavy packed ice, in which we would have inevitably been beset.

Several small islands were passed in process of

formation; some a few feet above water, and others just appearing above the surface; shoals evidently abounding on all sides. Evening closed in with a change of wind to a still more favourable quarter, south-west, which had the effect of setting the ice off shore, and consequently of increasing the area of open water, and of further favouring our progress to the eastward.

On Sunday the 18th, the weather had become foggy with occasional rain and sleet, the usual concomitants of a south-westerly wind; several small islands were seen, and about 10 A.M. we passed that bearing the name of 'Flaxman,' discovered by the brave Franklin in his early exploration of the coast of America. Towards noon, the low coast of the main land was to our great satisfaction again visible, with a lofty range of snow-capped mountains in the distance; the sea was everywhere clearer of ice, the wind was steadily freshening, and there was every reason to hope that we were on the confines of that expanse of water which that accomplished and distinguished Arctic traveller, Sir John Richardson mentions, as extending off the coast in the vicinity of the Mackenzie river every summer. High were our hopes, and ardent our expectations at the favourable circumstances that now enabled us to shape a course for Banks' Land; and as its western limits were unknown, none could say how soon it might be reached, the ship going seven and a half

knots. The pleasure we then experienced compensated us for all our previous anxiety.

There was, at the time the course was altered for it, a gentle heaving of the ship—a sure indication of a large expanse of open water before us, and it had gradually deepened to sixty fathoms.

The masses of floating ice we had passed during the day, appeared to have assumed more of an architectural character, so accurately as almost to afford evidence of design—tunnels, columns, façades, pediments, and temples, which in the accuracy of their proportions would have reflected no discredit on a rising architect. Grottoes too there were, so beautiful, as if nature had exhausted her best skill in their formation.

The morning of the 19th wore a wild and gloomy aspect, for the wind had freshened to a gale, and changed more to the westward; snow fell uninterruptedly, and more than all, we had again encountered the pack, then ninety miles from land, with immense floes intervening, and could obtain no soundings in 195 fathoms. We still, however, pressed on wherever the slightest opening appeared, and were gradually getting farther into the meshes of the main pack, until at length our progress was arrested, and a urther advance became quite impracticable. The ship had already sustained some heavy shocks, and brought up, with all sail set frequently, in our endeavours to penetrate and force a passage through.

the loose stream ice that lay in our way. It was, therefore, quite impossible to pursue our course, and we stood along the pack edge ready to take advantage of any circumstance likely to favour our northerly advance. But our position had become very perilous, owing to the certainty of being beset, on the least change of wind to the southward, for all the heavy floes, which had streamed off from the main body of ice, were in motion and would speedily have closed the narrow channels of water in which we moved, and fixed us in an everlasting grasp, should a worse fate not instantly have befallen us.

It was quite evident we had run on our northerly course into one of those deep indentations of the pack so frequently met with, and had penetrated as far as it was possible; as the ice master could not observe from his aerial position, a trace of water throughout the wide extent of the dreary wilderness which lay exposed to his view. Our attempt, therefore, to reach Banks' Land in this direction having failed, the only course left for us to pursue was to follow the pack edge towards the mainland, where our chances of effecting more might probably be greater, could we reach the known longitude of its northern outline; besides which, we were escaping from a critical position, where in a moment our efforts might have been irretrievably paralyzed. We therefore kept away to the south-east; and later in the day had to pursue a southerly course, to keep clear of those

formidable barriers which opposed our progress, but with whose colossal power and might we dared not attempt to cope, having so often tried it in vain. The deep sea lead was sent down in ninety fathoms, but obtained no soundings; the temperature was found to be 29·5; but towards midnight, having been rapidly approaching the coast, we got soundings in twenty fathoms—mud, and we were getting once more into a more open sea: our anxiety to reach which was great, as the vast floes we escaped from were all closing on the parent pack, and we could not but feel deeply grateful for that Providential goodness which had again safely delivered us from our perilous position of the morning. This ice was unanimously pronounced the most stupendous we had yet seen—from its heavy, terrific appearance, it must have been the growth of ages; and, was doubtless, that pack which extends uninterruptedly from shore to shore of the Polar Sea, except where the presence of land may intervene.

Night closed in with the same wild, tempestuous aspect as the morning—cold, raw and foggy. The temperature of sea-water had fallen to 29°, and that of air ranged from 33° to 34°; the decreasing density of the water 1010, told us of our coming within the influence of the Mackenzie River. As there was then some hours of partial darkness, the absence of the sun rendered everything more cheerless.

Early on the morning of the 20th, after having sailed through seventy miles of heavy floe-ice, a low point of land was observed to the southward, with the range of Buckland Mountains in the distant background, but it was was soon lost to view from the dense haze formed over it. Towards noon there being an appearance of open water to the northward, we again stood towards it, unwilling to relinquish our cherished hope of reaching Banks' Land, and still anxious that no opportunity should possibly escape us of forcing a passage through the ice, if this was in the power of human efforts to effect: We had not proceeded far, however, when the same impenetrable front presented itself, and sailing through loose ice, against which we struck heavily from time to time, we again found ourselves surrounded on all sides. The wind having fallen light, as it generally did, when we were advanced in the pack, our progress became quite arrested, and we were drifted in a current found setting to S.E. A calm subsequently intervening, the boats were lowered to tow, and continued doing so for four hours, counteracting in some degree the power of the current. They led us round a projecting point of ice, where the water appeared more open, we having been obliged to do this with the ship's head to the south-west—diametrically opposed to our course. It would have been injudicious to exhaust the strength of the men in towing us further in a retrograde course, and we had reached a position

where we might for a time anchor, at considerable risk it is true, and hope for a breeze before morning, which would do more for us in an hour or two, than the prolonged efforts of the crew throughout the night. The boats were accordingly called alongside, and a kedge anchor let go in seventeen and a half fathoms—mud. We were still on the edge of the pack, and in the midst of ice. Every precaution was consequently taken, in the event of our being beset, or of our position becoming more critical during the night, that the proper means to obviate either might be at once had recourse to.

Thus again had we completely failed in attempting to penetrate the pack, and shape a course for Banks' Land, which, after repeated, toilsome, and hazardous trials, we found an utter impossibility from that part of the Polar Sea. No earthly means of any magnitude or power, aided by all the best appliances of art, and guided by the judgment, ingenuity, and best energies of man, could avail in the slightest degree, in surmounting the overwhelming obstacles which, on these occasions, opposed our progress. It was to be regretted that we had again lost our fair wind, which we calculated would ere this have taken us to the eastward of the Mackenzie, as well as much valuable time, by running into the pack, and making another fruitless attempt to proceed to the northward, after the experience we recently had; but our motive in doing so was a laudable one, and we consoled our-

selves with the reflection that we had left nothing undone. Although we did not obtain success, we fancied that we deserved it.

For the few preceding days, we had been quite forsaken by all the feathery tribe, whose frequent appearance in flocks was gladly hailed, enlivening as they did, the cheerless aspect around. Not a seal even was visible, nor a trace of animated nature anywhere to be seen. Nothing was to be heard but the sound of the rippling current against the neighbouring floes, which, together with the measured stroke of the oars in the boats towing, as it fell faintly on the ear, alone broke the dreary, solitary stillness which everywhere prevailed. Snow falling heavily contributed much to the gloomy and cheerless aspect of the evening.

At 5 A.M., on the morning of the 21st, a light breeze sprung up from the N.E., when we weighed anchor, made sail, and stood away to the southward, that we might get clear of the heavy, loose ice which surrounded us; and pursuing this course for a few hours, we got into water comparatively free; and land was again seen from the mast-head, which subsequently proved to be Garry Island. About 10 A.M., we passed through a distinct line of tide, running N.E. and S.W. The water, at the same time, on the inshore boundary of the line, rose in temperature from 31° to 39°, that of air rose suddenly from 30° to 38°. The former became discoloured and

brackish, and sank in density from 1018 to 1012; and there could exist no doubt that we had at length arrived within the influence of the Mackenzie River: this, our position, ascertained at noon, fully confirmed.

As we approached the land, we found the water shoaled rapidly, until we got into four fathoms, when we were obliged to work the ship from shoal water to the ice, tacking incessantly in from seven to four fathoms. This shallowness was doubtless owing to the proximity of the islands, as we were then forty miles from the shore of the mainland; but recent experience of shoals elsewhere fully justified our not attempting to approach nearer than in four fathoms. The appearance of the water, loaded with mud, causes the abundant deposition of alluvial matter in the neighbourhood of those islands laid down in the chart, and favours the opinion that they are still increasing in extent, or that new ones are springing into existence. Indeed, this part of the coast appears to be still in process of formation from the vast amount of alluvium brought down by the larger rivers, Mackenzie and Colville, together with numerous smaller ones; and the streams and rivulets that course through the country in the season of thaw, and empty themselves into the Polar Sea, all surchaged with the material which is to add still further to the extent of this great continent. The quantity of driftwood strewn along the coast is enormous, particularly in the bays—forming a ready nucleus for the deposition of alluvium

held in suspension; and the barrier presented by the ice to seaward, and that grounded along shore, facilitates the deposition in a remarkable degree; so that considerable accessions of land must, in the course of time, be made to this part of the American coast, from the gradual encroachments it is making on the limits of the Polar Sea.

In the course of the day the Pelly Islands were seen; but of these as well as Garry I am unable to give any description, on account of the distance and the dense haze generally present. They were more elevated than any we had yet seen. These, with the several other islands at the mouth of this great river were the earlier discoveries of Franklin and Richardson; nearly all were visited, and of one (Richard Island) the former narrates a most affecting incident.

Heavy fog with increasing wind set in towards evening, and the surface of the water was more agitated than we had for some time seen it, caused in a great measure from the antagonizing influence of winds and currents. The difficulties of navigating the ship were extreme, at no period of the voyage were they greater, and we were surrounded by islands, shoals and ice. The lead line was our pilot on one side, and the ice on the other, but as the latter could not be observed on account of fog and increasing darkness, evidence of its presence was conveyed in the heavy shocks which the ship from time to time sustained.

Thus we continued our way, under circumstances, which led us to expect disaster every moment; nor did the following morning, the 22nd, reveal to us a more favourable state of things.

The weather still remained of the same foggy character, and the wind still obdurately came from the north-east, which obliged us to tack incessantly as before. In the course of the day, Kendal, Richard, and the Whale islands were observed to the north east, and we subsequently learned that about the same time the boat party of the 'Plover,' which had proceeded along the coast to the eastward, was then cruising amongst these islands on their return to the Mackenzie River, and strange to say we failed in seeing each other. Could our advance so far to the eastward have been anticipated, it would have been an important matter to have preconcerted a plan for meeting with this party at an appointed rendezvous, or at least to have left a record of our proceedings for mutual guidance. Combined operations on such a service cannot but be considered essentially necessary to ultimate success.

Towards evening, the fog gradually dispersed, the weather became generally clear and serene, and maintained the same character throughout the subsequent day. We still continued within the influence of the Mackenzie River, advancing under the same circumstances as before, in a sea of water; fully con-

firmatory of the recorded observations made by Sir John Richardson in his early explorations of this part of the coast, and more recently in his able and interesting account of a boat-voyage from this river to the Coppermine.*

* "Richardson's Boat Voyage through Rupert's Land."

CHAPTER VI.

Weather, &c.—Point Warren—Esquimaux—Their Encampment —Appearance of a European—Landing on the Beach—A Grave—Hostile reception by the Natives—Incidents—Peace established—The Women—Sick Man and Incidents—Appearance of the Men—Their Hut—Consternation produced by the Ship—Results—Flight of the Tribe—Intercourse with the Indians—Fire Water—Discovery of a Button and Results—Reported Murder of a European and a Party on the Coast—Boats seen—Appearance of their Huts—Their Interior—Presents—Provisions—Language—Departure for the Ship—Arrive on Board—Remain off the Point—Reland—Search for the Hut—Results—Construction of Huts—Incidents—Return on Board—Progress—Observations—Harrowby Bay —Land at Point Maitland—Deposit a Record—Incidents—Appearance of Land—Natives—Visit to the Shore, and Incidents attending it—Return to the Ship—Baillie Islands—Birds.

On the 24th, the general character of the weather had undergone but little change, the wind still blew fresh, but a little more northerly than before, and we continued working our way between the ice and the

shore, unable to approach the latter nearer than two or three miles; so shallow is the entire of this coast from the vast amount of alluvial deposit brought down by the great rivers, and the numerous smaller streams, to the shores of the Polar Sea.

Early in the morning, the low beach of Point Warren was discernible, the extremes bearing E.N.E. to E. by S. the land in the vicinity having a more irregular, lofty, and varied character than what we had previously seen more to the westward.

As we approached it, an Esquimaux encampment was faintly discernible, but its existence soon became fully established; and human forms could be discerned through a telescope. As we advanced nearer, within three or four miles, there were marked signs of great consternation in the camp. I was busily engaged in writing a few hasty lines for transmission to England, when the report of a European being seen, spread rapidly throughout the ship. I rushed on deck under the same joyful emotions that generally prevailed, but I confess I was unable to verify the fact by my own observations. However, I must do the original observers the justice to say, that at the time I took the glass in hand, they informed me the object had disappeared, and that the natives were less numerous. They still stoutly maintained the fact, and believe in its existence to this day.

About 12.30 the first cutter was manned and armed, when Captain McClure and myself accompanied

by the interpreter, proceeded to the shore in the direction of the encampment, then distant about three miles, which with the aid of sail and a fresh breeze we soon reached; but when about fifty yards distant, the boat grounded and a surf, heavy for the Polar Sea, broke over her, which obliged us to be carried on shore on the backs of the men.

As we approached, we were surprised to see only two men and a woman—the latter running about and shouting out lustily in their native language—the women in the back ground carrying something which we found out afterwards were arrows. The huts four in number, appeared deserted. A mound was likewise discernible about 100 yards from them in which a pole was placed, and a piece of skin or some such thing suspended from its top; this, the interpreter pronounced a grave, probably of a European, which coupled with the previous report increased our anxiety in no slight degree. Captain M'Clure then expressed a wish that I should examine it, to which I gave a ready assent, considering it of great importance. As we were about to land, the men continued to utter the most discordant yells and threats to deter us. We had previously made the usual friendly salutations with the extended arms repeatedly, but instead of the customary recognition, we were greeted with wild gesticulations and more angry denunciations than before.

The Captain and myself being the first on shore

proceeded towards them, I carried my gun, and a seaman a short distance behind had another. Matters then bore a hostile aspect, but we still advanced with the most friendly intention, in vain endeavouring to confirm this by signs. The two men with "bended bow and quiver full of arrows," appeared momentarily in the act of commencing an assault. They took aim, with hair streaming in the wind, agitated by all the fierce and angry passions of their nature, and bounding to and fro, brandished knives, with all the lightness and agility of expert hunters, and the savage wildness of enraged, uncivilized man. I have seldom viewed anything with more admiration than this display of courage and determination on the part of two men, to resist the approach of twelve to their encampment, which they appeared resolved at any hazard to defend. All our efforts at pacification having proved useless, we stood fronting them a few yards distant, in full expectation of seeing an arrow fly; when the interpreter, who had been the last to leave the boat, joined us, wearing a skin coat fashioned after the style of that worn by the Esquimaux, which at once attracted their attention. He addressed them loudly to overcome their noise, but in friendly terms. This appeared to mollify their wrath a little; but they were still wildly excited, pointing to the gun I carried, and that borne by the seaman in the rear.

The interpreter again vainly addressed them.

They would hold no intercourse, or allow us to approach nearer, unless we removed the guns, for which they appeared to entertain a great horror, and no less dread of the ship then in the offing, to which they frequently pointed. The guns were at once placed on the ground, but that would not satisfy them. I then handed mine to one of the men a short distance behind me, with no better result. They still resolutely repelled any advance until the guns were placed in the boat, then about one hundred yards distant. We could have been under arms in a few minutes in case of treachery or surprise, so acting on the advice of the interpreter, they were removed.

Having given them proof of the friendly character of our visit, of which we again in words assured them, at the same time presenting a piece of tobacco to each, the whole aspect of affairs underwent a complete and sudden change. The Esquimaux approached, I am happy to say, without rubbing noses, and in their altered expression and demeanour, evinced a desire at once to cultivate friendly relations, allowed us to examine their bows and arrows, and by our desire fired at a mark—a piece of driftwood fixed in the soil about eighty yards distant—when they elevated their bows in an instant without apparently taking aim, and pierced its centre; affording us ample evidence of what good targets we should have made for such unerring marksmen.

We then offered them several presents with which

they appeared greatly delighted: a little scarlet and blue cloth we gave them, was particularly valued. They presented Captain M'Clure and myself with an arrow, and the bond of peace became then firmly cemented. They called the woman, who hitherto had stood in the background with a bow and several quivers of arrows, in expectation of an encounter, that she also might receive some presents. A fourth, and not the least interesting object of the group, had a short time before come out of one of the huts, and attended by the woman (his mother) sat before it, with bow and arrows ready for use; he was in a crippled state, as we perceived on inviting him to join, by his approaching us hopping on two sticks, when he also was conciliated by our bounty. On inquiring, through the interpeter, I was informed that he suffered from an injury received in hunting; his mother at once came forward, and removed his moccasin, as well as a piece of skin which covered his leg, with a degree of care and gentleness not always practised in more civilized life. I was shocked at the appearance which this poor fellow's limb presented—the foot and lower part of the leg being in an advanced state of mortification, filthy in the extreme, from water never having been used; and the only covering was a piece of hard skin in the same filthy state. As the disease would inevitably be attended with the loss of the limb, and very likely of existence, I was anxious to get him on board, that it might be at once removed,

with the view of saving his life. To this proposition they were at first disposed to accede, but it was subsequently declined. I, therefore, recommended what was best to be done, but with little hope of its being attended to. In time, no doubt, he will be a victim to the savage custom of his race, described by the interpreter. As soon as the tribe leave the encampment for a trading excursion, the parents will take him to the summit of the highest land in the neighbourhood, and there leave him to perish. From the parental care I saw manifested in this case, I was unwilling to believe they would subject him to such a fate; one, however, which is, I believe, generally received with resignation.

I was greatly interested in this poor young fellow, as he was much the finest specimen of his race we had seen; in stature tall for an Esquimaux, about five feet eight inches, and quite unlike them in his general features and aspect—which led us to suppose that Indian, or even better blood, ran in his veins. He had an aquiline nose, large black eyes, a most pleasing expression of face, and his faint smile on being questioned, displayed his regular well formed teeth to much advantage. The interest we felt in his fate was much increased, by his quiet subdued manner—making no complaint as he appeared to feel no pain—and from the determination he evinced to defend his fireside to the last.

Notwithstanding the savage fury of these Es-

quimaux on our arrival, their subsequent conduct was kind and gentle, to a greater degree than we had before observed in people of the same race. Their dress was of the usual character formed of reindeer skin—the fur next the body. They were of middle stature, strong and muscular, and the fierce expression of their swarthy countenances, was increased by the long dishevelled hair flowing about their shoulders. They looked the lords of the dreary coast on which we stood. I was glad to perceive the hideous labrets were not worn by these people, as I believe the custom is peculiar to the tribes inhabiting the lands westward of the Mackenzie. I also observed that the tatooing on the chin of the women, was different to what we had previously seen; instead of one broad line and two smaller parallel ones, a series of dotted lines extended from the lower lip to the chin, forming one band about an inch in breadth; their feet and hands were of characteristic beauty and smallness.

At their request we adjourned to a newly erected hut, entirely composed of wood. It differed from those of Esquimaux, more closely resembling those of the Indians, being formed of stakes placed upright in the ground about six feet high, either circular or oval in form, from which others inclined so as to form a sloping roof. On entering, we found a large fire of driftwood burning in the centre of the floor, on which were pieces of reindeer's flesh being cooked, but

as black as charcoal: our visit having evidently led to its being neglected. Here we learned the following intelligence through the medium of the interpreter.

The elder of the three men was the chief of the tribe, the two younger were his sons, and the woman his principal wife, as polygamy exists amongst them. The first was a fine active looking man, much resembling his crippled son in feature; he wore a stunted beard, and a moustache represented by a few grey hairs; conveying to me the idea that he had seen some fifty winters in this dreary clime. The ship having been observed at an early hour in the morning off the coast, her appearance had caused the utmost consternation amongst the community, which in numbers amounted to about one hundred. They could not form an idea as to what she was, but frequently pointed to her, shouting aloud as if conveying intelligence to others of the tribe—who not being visible, led us to suppose that they might be concealed in our neighbourhood. On the approach of our boat, all the men, women and children, from their account, had taken to the boats.

We observed, in the direction they pointed out, two baidars, filled principally with women, as well as we could discern, waiting, in a deep inlet to the eastward, the result of what was going on at the encampment. The old chief said they had left all their property, and that he and his family would have fled

also, were it not that his crippled son could not be removed; and they resolved not to leave, but defend him to the last, had we given evidence of any hostile intention. They were at war with the Indians to the southward, and their brethren to the eastward; so that these savage subjects of our most Gracious Queen, carried on war pretty extensively on their own account. Some of their arrows were double-barbed, with serrated edges; and bore evidence of recent conflict from the presence of blood-marks; but whether of man or the reindeer could not be determined. They said they often fought, and some of their enemies might be killed; but that they were seldom able to ascertain the fact. They reside at this place throughout the year, do not go inland where their enemies reside, nor do they carry on trade with the Hudson's Bay Company, or their traders; the only intercourse they have, being with that tribe of Esquimaux whom we met with at Jones' Islands, and whom they travel over the ice to meet in the spring, midway between their respective encampments, for purposes of barter. Through this channel all their trade is carried on with the Russians, and not with the Company in whose territory they reside. The reason they assigned for not doing so, when questioned, was, that some of the Indians had been killed by fire-water (spirits), which some traders had given them to drink; and they feared that they might be treated in the same way. This statement is given as nearly as possible in the words in which it

was uttered; and, if such a practice exists, it is reprehensible in the highest degree. They appeared much pleased when we mentioned the name of "Attawaa" the chief of the tribe with whom they traded, and of whom I have previously spoken. Our having seen and communicated with him, as we informed them, increased our intimacy to a considerable degree, and, on the interpreter presenting the woman with a string of beads, she said she would become his mother, offered to get him a wife, if he would remain with them, as they looked on him as one of themselves, from the mode in which he was dressed.

As I stood at the fire next to the old chief, I observed a button suspended from his ear, worn as an earing, which, on examination, I found to be a flat metal button of English manufacture, with the word "London" stamped in a circular form on its inner surface. I immediately directed Captain M'Clure's attention to the circumstance; and inquiries at once began as to the mode in which it came into his possession, when we heard the startling intelligence that an Indian, *like ourselves*, as they said, *had been killed not far from where we stood.* The name of Indian is applied to all people dissimilar to themselves; and the interpreter concluded it was a European; but when the deed was done, it was impossible to determine, from their inability to compute time with accuracy. The son who was about twenty-seven years of age, said, on being questioned, it might have been last year, or when he was a boy; but on this

point we could not in any way ascertain the truth, and were left in a state of painful anxiety. It appeared that a party had landed on the extreme of Point Warren, distant from where we were some three or four miles, continuous with the main land, where they erected a hut similar to the one we were in, of an oval form, nine paces in length and six in breadth, formed of wood cut with a knife; and they expressed great desire to have an axe or hatchet, of which they appeared to know the use. The old chief expressed his willingness to accompany us to the locality, and, indeed, appeared anxious that we should visit it; but his offer was declined. The alleged Indian had approached their encampment alone, was guilty of some indiscretion which excited their fury, and led to his being murdered and interred in the mound, which the interpreter had rightly judged to be the grave of a European. They also informed us that the man who had killed him had fled from the encampment that morning in his "kayak," on first seeing the ship, fearing that we had come to chastise him or his tribe for the offence, in accordance with their own savage custom of revenge. Could this circumstance have accounted for the appearance of a man in European costume, as reported by several persons on board; the only vestige of which that we could discover, was the button I had noticed? An examination of the grave, as originally intended, might have cleared up this very mysterious story; for the preservative powers of frozen soil would keep the

body for years in a state of freshness; and I regretted then, as I still do, that this was not permitted. The remainder of the party had gone inland after the occurrence; but we could not learn if they were aware of it. To visit the hut they had erected, became an object of great interest: that the locality might be explored for any recent traces of voyagers, and that the truth or falsehood of the statement might be established; but of the murder there could exist no doubt; before doing so, however, Captain M'Clure decided on returning to the ship. They told us of their having seen two boats the previous summer (1849) going to the eastward, and again soon returning to the westward towards the Mackenzie; but more we could not ascertain, as neither had communicated. It must have been the party of Sir John Richardson, or that of the 'Plover.' The former did not, however, return to the Mackenzie, having proceeded overland from the Coppermine River.

We visited their huts, eight in number, all of which, with the exception I have mentioned, were composed of skins supported by poles. One end was of a conical form, like that of our ordinary field tent. This was the sleeping apartment, and was separated from the other by a skin curtain of a quadrangular shape; the last filthy and disorderly to a degree, as it was used for all purposes except sleep. The family congregate together in the conical part of the tent, like animals, for repose, on a couch formed of reindeer skins spread

on the frozen soil. As a proof of their sagacity, this end of the tent was always pitched to windward, as presenting less resistance than the other to the force of the blast. I observed the only cooking utensil was hollowed out of stone, and fish had been recently boiled in it. All their implements for hunting and fishing were strewn carelessly about, evidencing a hasty departure of its occupants. The filth of these huts was truly disgusting, and the odour arising from it such as seldom assails the olfactory nerves. The pasturage was rich and luxuriant, and animals, no doubt, plentifully abound; of this the ground in the vicinity afforded ample evidence; and their great success in the chase, from the number of bones that were strewn about, chiefly of the reindeer, whale and seal, was fully confirmed by the quantity of provisions that we saw, consisting of dried reindeer meat, fish, whale blubber and ducks, buried in large holes in the ground. We procured a good number of ducks (pintail and eider) from them, and made many presents in return. They were particularly pleased with a saw we gave the son—the old chief telling us that he and his son shared alike in all things; and from the events of the day, I could not but conclude that a stronger attachment existed between the members of this family than is usual amongst these wild, uncivilized people. The language is nearly identical with that spoken by the natives of Labrador, and somewhat different from that of the

tribes to the westward. It is a pity that the laudable efforts of the class of Missionaries that spread Christianity amongst the former, cannot be traced along this coast.

We took our departure at 3.30, leaving the party highly gratified by our visit. Having got safely through the surf, we reached the ship, then "lying to" in the offing, thoroughly drenched. It was then determined to steer as near Point Warren as possible, that we might make a search for the hut. But the fog increasing, the land was shut out from view for the remainder of this tempestuous evening. Our visit was consequently deferred; and, for this purpose, the 'Investigator' stood off the Point for the night.

On the following morning, Sunday 25th, at 3 A.M. we again left the ship in the first cutter, and proceeded to the shore in the immediate vicinity of the Point—a cold northerly wind blowing off the ice, and the sky cloudy and overcast, imparted a cheerless aspect to the morning. We soon reached the shore and encountered the same shallow water and surf as yesterday, through which we waded to the beach. Immediately on landing, some marks were observed on the sand, much resembling those of a boot, but they were so indistinct, and not being elsewhere observable, I am not disposed to attribute any degree of importance to them. We met with no Esquimaux, but saw two deserted huts about five hundred yards

from the beach, which were assumed to be those we were in search of; an inlet intervening, obliged us to describe a considerable circuit in our approach.

We had thus found two instead of one, and I began to doubt if this was the exact locality, for an Esquimaux point might have a more extensive signification than we attach to the term. It was, therefore, much to be regretted, that we did not revisit the encampment and take the Esquimaux chief for a guide.

The huts were constructed of driftwood, turf filling the interstices, and were similar in form to the one already seen, but less capacious and lofty; the architect had evidently much improved on the original design—assuming these to have been the structures alluded to. One was in a more dilapidated state than the other; neither of them presented an appearance of having been recently occupied, nor was there anything by which we could establish the fact of their having been the residence of Europeans. While our party proceeded along the coast for a short distance, I remained with two men, to examine thoroughly the most perfect, but failed to discover any trace of civilized man. The floor sounded hollow under foot, and on removing some wood, we found an excavation beneath, which had evidently been a *cache* or store-house, as it contained a few bones of animals, a portion of an old wooden Esquimaux utensil, and a small piece of ivory pierced with holes, similar to

what they wear about their person. These and the remains of an old kayak lying outside, proved their former occupation by Esquimaux, which of course might have been subsequent to the original occupiers, but there was no proof that we had reached the proper locality. Nothing further was discovered. In an excursion along the shore on the opposite side of the point, a fishing net indicated one of the fishing stations of the natives. The soil was generally swampy, with numerous ponds of water interspersed over its surface—a peculiarity of all the points of coast we had visited; some were worthy of the name of lakes.

On our return to the boat, we found that she had become imbedded in the sand, and as the water had receded a little since we landed, it had much increased our difficulties in getting her again afloat. This was only accomplished by our united efforts and perseverance, when we again got safely through the surf, made sail, and reached the ship after four hours' absence.

As we continued our progress along the coast, under circumstances similar to those I have mentioned, there was marked evidence of an advancing season. The temperature had become lower, and had a less extensive range during the day, from 30° to 35°, together with cold northerly winds, sleet and snow. The sea-water had increased in density to 1020, with a temperature from 33° to 35°. The

birds were less numerous, and appeared generally going to the southward—unmistakeable proof that summer was drawing to a close.

On the 26th, we sighted the low land of Phillip's Island, close to which we saw two Whales; and were enabled to tack fifteen miles to seaward, when we reached loose sailing ice. Much of a heavy character was observed grounded along the coast, and shoals appeared to abound. Cape Brown was passed in the evening, and on the 27th we had reached Cape Dalhousie, to the eastward of which we found a current setting to the south-west eleven miles in twenty-four hours. A tidal line was also observed extending from N.E. to S.W. but there was no difference in the density of water on either side; it decreased to 1018, however, some hours afterwards. Nothing of any consequence occurred to call for observation, or enliven the cold, cheerless character of the weather, until the 30th, when we sighted Nicholson Island and entered Harrowby Bay. When at 8 A.M. a mark having been observed on the land, Mr. Sainsbury (mate) and myself, accompanied by the interpreter, proceeded in the third whale boat, with orders to examine it, and deposit a record of our arrival, &c., the ship laying to, about two miles off shore to await our return. On reaching and examining the object which had attracted our attention, we found it to be nothing more than a small mound of earth with a pole in the centre—one of the usual

Esquimaux marks to identify locality, as we had frequently met with them on other points of the coast. Close to it, we saw the wood belonging to two sledges, carefully placed together for future use—near them were a few spots, where the soil appeared to have been lately disturbed, and on seizing the turf it readily came up, revealing to our view an excavation containing a great quantity of fish and ducks, which we left untouched, having carefully replaced the earth as we had found it. There could exist no doubt that we had reached the hunting ground of a tribe of Esquimaux, whose encampment might be either distant or remote, but as our orders were imperative to return at once to the ship on the completion of our duty, we had no time for further exploration.

We erected a mound and deposited a bottle containing a record of our proceedings ten feet to the magnetic north. We failed in procuring a piece of driftwood of sufficient size, to make the mark conspicuous, and were reluctantly obliged to take a portion of one of the sledges for the purpose; the native marks on which we removed, and cut a broad arrow on its surface, together with the ship's name. While this was in process of erection, I made a hasty run over the land, procured several new botanical specimens and a few small birds, viz. Sanderling (*Calidris Arenaria*), Snow Bunting (*Emberiza Nivalis*), and Turnstone (*Strepsilas Collaris*), several of each.

were seen. The land was more elevated than any we had previously visited, but flat, forming a continuous plain; the soil was of rich loam, with peat superimposed in depth from twelve to fourteen inches, and the pasturage everywhere luxuriant and abundant —no doubt a favourite resort of animals. I also observed several small lakes or ponds on its surface, containing good fresh water.

Soon after our return to the ship, we stood in, as close to the land as was compatible with safety, along its north-eastern coast, proceeding towards Baillie Islands. Two figures were seen standing on the high plain we had visited in the morning, a few miles more to the northward. Considering them as evidence of the presence of others, it was determined to close the dispatches, and commit them to their charge, as we might not again have such an opportunity; assuming that they were a portion of the tribe we expected to meet at Cape Bathurst, to which we were then proceeding. Accordingly, at 1 P.M., the first whale boat and first cutter were manned and armed. Captain M^c^Clure and myself, with the interpreter, proceeded in the former; orders being left that the latter, which was to convey some of the officers who wished to take advantage of whatever sport the country afforded, should not leave the ship until we had reached the shore, lest our numbers should cause any unnecessary alarm amongst the natives. The interpreter was placed standing, a conspicuous object

in the bow of the boat. His costume so closely resembled that worn by the natives, that they could have no difficulty in its recognition; and as we knew that our flag had before waved over this icy sea, we unfurled the white ensign of St. George, in the hope of its also being recognized; feeling certain it would remove whatever apprehension our approach might create. As we neared the shore, the two figures disappeared, but soon again presented themselves, attended by several dogs. They proved to be two women, who joyously returned the signal of friendship which we then made. The boats grounded a short distance from the shore; and we were again afforded an opportunity of testing the qualities of our water-boots, by wading. We landed on a soft mud beach, and ascended a bank of about 80 feet high; in some places quite perpendicular, at others inclining at an angle from 15° to 20°. They formed gullies which facilitated the ascent. We reached the summit of the wide extensive plain on which the women stood, and trod on the same luxuriant soil we had visited in the morning. The women, the younger of whom carried a child on her back, about fifteen or sixteen months old, after the fashion of her country, received us with demonstrations of gratification, as if accustomed to the sight of Europeans, but without the nasal salutation, with which we could very gladly dispense. We commenced an animated conversation through the medium of the interpreter. They appeared intelligent,

and cheerful; laughed incessantly, which could only have been from their delight in meeting us, as there was nothing we could discover to excite their risibility. We learned that they stood towards each other in the relative position of mother, daughter, and granddaughter. The former might have seen five-and-forty summers, and her daughter some sixteen or seventeen less; but both appeared much older in face than their activity and smartness indicated. All the men of the tribe were away fishing and hunting some distance, and they pointed to the north. We assumed that they meant Cape Bathurst. These women were living in a hut only a short distance further along the coast, from whence, they said, they would conduct us to their encampment. Accompanied by them, and the party from the second boat, we proceeded at a good pace along the plain, close to the bank—the two boats pulling at the same time along the shore. The women were very jocular and amusing on the march, and gave ample evidence of the muscularity and strength of their limbs; and, certainly, I never saw firmer, more compact, or much better formed supporters in any of their sex before. The hard, well-developed muscle plainly showed the occupation of their lives. They were much amused on seeing one of the officers, when landing from the cutter, sink so deeply into the soft mud, that it was with difficulty he was extricated, and then only with the loss of his long boots, which were completely embedded. On observing him afterwards take

a small quantity of spirits from his flask, to counteract the chilling effects of his immersion, seeing it was of a clear colour, they at once pronounced it poisonous, and similar, they said, to what the traders to the southward had given the Indians, which killed them. This was the second time we had heard a similar story, since entering the Hudson's Bay Company's territories. On our informing them that the officer only took it as a medicine, the younger immediately complained of pain, and requested to have a little. Her taste was gratified. She took but a small quantity, which she again spat out, and expressed her great dislike of it.

We soon found that they had not a very accurate idea of distance. They had at first assured us that their encampment was only at a short distance; and the same story was repeated after walking about four miles; but, in the hope of soon reaching it, we continued our advance. From them we learned that a party consisting of two boats and ten Europeans,* had been on the coast two years before—meaning two summers—doubtless, the one under the command of Sir John Richardson—and that they had pitched two tents and stopped two nights a short distance further on. As I was rather curious to see where my friend Sir John had bivouacked, I requested

* We could not clearly understand the exact number from their inability to reckon above ten. The party was, I believe, larger.

the interpreter to tell them to be very particular in pointing out the exact spot. As we proceeded along the coast, its regularity of outline was occasionally interrupted by shallow indentations, forming little crescentic-shaped bays, well sheltered on either side by the high land, which steadily increased in elevation as we advanced; and in one of these little sheltered bays the party had passed the night. The site of their bivouac is now marked by an irregular-shaped mound, formed of earth, driftwood and stones, beneath which is buried their winter stock of provisions. The Esquimaux women entertained a perfect recollection of the Chief (as they said) and his party; told us several amusing stories connected with their visit, and showed us beads, rings, and other articles which they still wore in fond remembrance of the intrepid voyagers, who had evidently left a most favourable impression, as they laughed heartily when we mentioned them.

On being informed that Captain M'Clure was a great chief, and that I was a great medicine-chief from a far country—being the only two of whom they made enquiries—they allowed us to proceed in front, and maintained every sign of respect for such distinguished characters as we should have been accounted amongst the tribe. We still continued our march, without observing the least trace of hut or habitation of any kind, until one of our men,

whom we had sent on as *avant-courier*, carrying the ensign unfurled, waved it as a signal of success.

I was much struck with the sagacity manifested by the native dogs, and the vigilance displayed by them in watching our movements on this short journey. Captain M'Clure and myself being a short distance in advance of the women and the interpreter, were guarded on either side by one of them; two attended the women, one advanced to the hut, and the sixth brought up the rear; and, as we approached the hut, they took up a position in front of it, evincing every desire to aid in its defence, if necessary—proving how truly valuable they are to the Esquimaux.

We, at length, reached another of those little bays, about five miles distant from our original starting-point, and found on the inclined plane of its southern aspect, one solitary, miserable-looking hut, instead of the encampment we had been led to expect. Our standard-bearer having found it without an occupant, had quietly taken possession of it, and hoisted his flag on its summit, where we saw it waving as we approached. This was one of the smallest and most wretched-looking habitations we had seen, merely consisting of skins, chiefly of reindeer and bear, thrown over a few poles united at top, in form of a triangle, and not more than six or seven feet high. It was extremely filthy inside, with a plentiful supply of fish (salmon), and dried deer's flesh strewn around, which

apparently assisted to form a couch for its occupants. To afford a proof of the excellence of this diet, one of the women took up a fish in a semi-putrid state, and ate it in our presence with zest and avidity. Fish plentifully abound on this part of the coast, which they call Salmon land. Several nets were set on the beach, made very ingeniously from the ham-string tendons of the reindeer, about twelve or thirteen inches long, knotted entirely by the hand. We obtained a considerable quantity of fish in return for the presents we made. Captain M'Clure being desirous of obtaining a white bear skin which covered their hut, bought it for a copper kettle.

Nothing could exceed their civility to us. They appeared surprised we did not indulge in raw fish as freely as themselves, and were exceedingly anxious that all our party (twenty-five in number) should stop for the night in their wretched hut. They offered us many inducements to do so, and among others that they would summon the rest of the tribe to meet us and make merry. I was much struck with the appearance of the child, who was evidently more European in features and appearance than any I had yet seen amongst them. They did not evince the same degree of surprise at the great oomiak, as they called the ship, as the other tribes we had met with. They gave us to understand that the boats of Sir John Richardson had similar great cloths like ours, which doubtless prepared them to feel less astonishment at

the appearance now of one of so much greater magnitude. They then told us that two other European boats had been seen a few days before. These we thought they confounded with, and were Sir John Richardson's party, but I subsequently learned that the 'Plover's' boats had been along this coast a few days prior to our arrival, and had returned on their way to the Mackenzie, as I have elsewhere mentioned, and had evidently landed in this neighbourhood. Captain M'Clure did not consider it judicious to trust the dispatches to these women, but determined to return to the ship, remain off the coast during the night, and seek the encampment of the men further to the westward early the following morning. We then took our leave, the women still regretting our non-acceptance of their hospitality. They waded off with us to the boats, then grounded some distance from the shore. After we had got afloat, the two poor creatures could be seen running along the beach, holding up fish as an inducement to return. They had previously expressed, in the most piteous tones on parting with fish in barter, that they should all die in the winter from starvation.

We reached the ship at 6 P.M., and worked up along the coast until darkness set in. We anchored for the night off Baillie Islands, in four fathoms, the weather looking wild and unsettled. The temperature of air had fallen to 27°, and sea-water to 28°. Young

ice formed in the rigging which was showered about us plentifully in working the ship.

When on shore several Ducks and Gulls were shot, and the Great Northern Diver (*Colymbus Glacialis*) was seen for the first time; several flocks of Ducks were also seen all going to the southward—increasing the unpleasant evidence, that the short Arctic summer was drawing to a close.

CHAPTER VII.

Weather—Revisit the Shore—Incidents—The Coast—Cape Bathurst—Encampment—Land on the Isthmus—Advance to Encampment—Esquimaux—Interview and Incidents—Their Hostile Aspect—Altered Demeanour—Appearance of Men and Women—Incidents—Fire Water—Barter—Despatches—Negotiation for their transmission—Return to the Boat—Presents to the Natives—A Gun—A Thief—Their rude Behaviour—War Whoop—Difficulty in clearing the Boat—Leave the Shore—Boat aground—Esquimaux Kayaks—Their Weapons—Mode of using them—Incidents attending our return—Their Visit to the Ship—Invitation to the Encampment—Departure from Baillie's Islands—Visits from Esquimaux and Incidenta—Their Account of other Expeditions—Visit, &c.—Expectation of a Ship with Presents—Their Departure from the Ship—Esquimaux, their Habits, Manners, Customs, &c.

THE morning of the 31st of August wore a cold and cheerless aspect; the land, instead of the rich and verdant appearance it presented but a few hours before, being everywhere covered with snow. We had anchored between Baillie Islands and the main land,

about four miles distant from each, and it having been determined to seek the hunting grounds of the Esquimaux further to the northward, early that morning, at 7 A.M., the first cutter was again manned and armed, and provisions taken for twenty-four hours. Captain M'Clure and myself, with the interpreter, once more took our departure. It was the coldest day we had yet experienced within the Arctic circle, with a fresh biting blast from the westward; the wind having a few hours before forsaken that quarter whence it had so obstinately blown against us.

We resolved on running along the coast of the main land as near as possible to the shore, and stood in accordingly towards a small bay, which proved to be the one we had left the evening before—a good starting point from whence to commence our search for the tribe. The boat grounded as we approached the shore, and the surf breaking pretty heavily at the time, we were obliged to anchor. After some exertion we were again soon afloat, and as the wind was blowing directly on shore, we had to pull out some distance, the water being very shallow. No sooner was the boat observed approaching, than our two friends of the previous day made their appearance, and by word and gesture earnestly besought us to land. Our duty lay in another quarter; they, however, ascended the heights and watched us for a long time.

As we advanced on our way through loose ice, our

progress was arrested from time to time by several little mishaps. The wind having increased considerably in force, it carried away our main-yard, then sprung the mizen mast, and we grounded repeatedly amongst the ice. The coast line presented a succession of lofty headlands, as if each, on becoming exposed to view, was the last, until we got some eighteen or twenty miles to the northward, when that which appeared to be, as it really was, Cape Bathurst, broke fairly on our view. No trace of a human being was anywhere discernible along the coast, with the aid of a glass; and our last hope rested on the Cape we were rapidly nearing. We were about to relinquish the search, supposing the tribe had changed their encampment, and perhaps gone farther inland, when the glass being in my hands, I thought I could discern a figure in motion near the extremity of the Cape. Soon afterwards, a number of huts and many people were discernible; and the anxiously sought for encampment was, at length, discovered on the extremity of the Cape, much to our delight.

The shallowness of the water would not admit of our steering direct. We, therefore, kept on our course towards what appeared a large floe, extending between the Cape and neighbouring island, but which we found on landing to be a narrow sandy isthmus on which the snow was deposited some five or six inches. The boat grounded some distance from the shore, but we tracked her in as near to it as

possible, and at once made our dispositions for advancing to the Cape. As it was difficult to say what attitude the Esquimaux, from their great numbers, might assume towards a party consisting only of eleven persons, and as they had manifested no sign of friendship as yet, but stood silently on the verge of the Cape watching our movements, the muskets were loaded and ammunition served out; five men being left to guard the boat, with orders not to allow any kayaks to come alongside. We landed with three men, one of whom carried a white ensign, and a bag containing the presents, and boldly advanced towards the Cape, then distant about 700 yards. We had got about half way without observing the least movement amongst them, and matters wearing rather a hostile aspect, we considered that our fearless advance, in numbers so few, would convince them of our friendly intentions. Suddenly one of them was observed to descend the cliff, at the base of which were several oomiaks and kayaks, seized one of the latter, launched it in a small channel of water, separating the isthmus from the Cape, which was in some places quite fordable, and made way towards us. In a moment, all the others, as if by preconcerted signal, followed the example, and in a few minutes the whole tribe advanced rapidly towards us. They left the kayaks at the stream, and ran wildly along the beach, yelling loudly—their long black hair streaming in the wind. Carrying their bows ready for use, they

unsheathed their long bright knives, and brandished them in the air as they advanced. All the women followed with supplies of arrows, presenting a picture of hostility, which left little to be understood of their intentions. We halted in a line to receive them, our guns being ready for use, if necessary, and made the signal of peace—the interpreter at the same time calling out lustily that we were their friends, which induced them to pause when a few yards distant, still vociferating loudly as to our intentions. Their numbers rapidly increased, several oomiaks filled with men and women having left the shore to reinforce them, all armed. Some of the latter carried long spears, and there being then not less than ninety or a hundred present, with an evident desire on their part to close around us, we drew a line on the snow across which neither party were to pass. This mode of preserving order they at once understood, as if the custom existed amongst themselves; but while they evinced a readiness to comply at one moment, in the next, the line of demarcation was passed, and we became nearly surrounded by them as before. This went on from time to time, requiring the utmost trouble on our part to keep them back; the interpreter being all this time in conversation with the chief and principal men of the tribe, assuring them of our friendship, and the peaceful object of our visit—being in search of our lost brothers. As the interview progressed, we observed several of them return their arrows to the quiver;

others handed their bows to the women; but the knives were retained. We then considered that the indications of hostility they had manifested were at an end, at least, for a time.

The guns we carried were evident objects of attraction, and a japanned botanical case slung across my back much excited their wonder and admiration—its reflecting surface adding, no doubt, greatly to their surprise. A clever attempt was made to steal a brace of pocket-pistols it contained, and I was obliged forcibly to wrest them from the thief. They made several playful endeavours to get the muskets out of our hands but this was firmly resisted; and other attempts at familiarity also required us to maintain an appearance of determination.

The information they gave us was similar to what we had received from the women on the previous day; and nothing additional was then elicited. The tribe appeared to be composed of young, active, muscular men, and the women were decidedly better-looking, with more vivacity and cheerfulness than any we had met with. I fancied that I could trace the outline of Indian features in several of both sexes; the dress of the women particularly partook in some degree of that worn by the Indian tribes, and differed from the costume of their race along the coast. In the men, there was an absence of the labrets; but several had the septum of the nose pierced and transfixed with a piece of

ivory, some three or four inches long, a blue bead ornamenting either end. Sundry emblems of their success in the chase were worn suspended from their deer-skin coat; chiefly the head and neck of the Great Northern Diver, skins of the stoat or ermine, and other small animals—all intended to convey an idea of their individual prowess. Tatooing was common amongst them; and the captors of Whales were each honoured with one line extending outwards from the inner angle of the eye across the cheek; for each one taken, the captor became entitled to an additional mark. They had caught a Whale only a few days previous, and had been busily engaged in feasting on, and flensing it, on our arrival. The captor was pointed out to us. He had received his line of tatooing; it was the first he had taken, and was evidently very proud of the honour, and the high position he now occupied among the tribe. He was one of the finest and most intelligent-looking among the young men; and, on the strength of his capture and general success that season, had taken to himself a second wife; the number being proportioned to the wealth of the husband, and his ability to maintain them. They all had the appearance of expert hunters, and ran with great celerity. They said they were about half as many at the encampment as were present; so that we estimated the strength of the tribe at one hundred and fifty persons. They would all leave the Cape (except one family,

which remains throughout the winter) in about three weeks, as soon as young ice covers the sea. They then proceed to that part of Harrowby Bay, where we had discovered the sledges, birds and fish, until the ice acquires strength sufficient to admit of their travelling, when they go westward to meet a tribe from the Mackenzie, with whom they trade, the latter trading with the Indians, who are in direct communication with the Hudson's Bay Company's agents. They repeated the accusation of the fire-water having been given in barter, and its fatal results. On inquiring as to the value of a silver fox-skin, and the amount it realized in barter, they confirmed a story we had heard from the women the day previous, that for three of those precious skins they had got from the traders cooking utensils, which we estimated at eight shillings and sixpence. I may mention that the skin of the silver fox is one of the most valuable furs, and at the annual sale of the Hudson's Bay Company varies in price, sometimes being as high as twenty-five or thirty guineas, so that an idea of their profits may be formed when we consider the amount of the original cost. How much the condition of those poor creatures might be improved under the influence of *free trade*.

They were at war with the Esquimaux, whom we met at Point Warren, and with some tribes of Indians to the south, which quite corresponded with the accounts received at the last-named locality; and, I

joined to escort us back to the ship—as the water was very shallow, one of them in his tiny craft, piloted us clear of the grounded ice and shoals. It was beautiful to witness with what tact and dexterity they were managed, and rapidly propelled through the water. They are elegantly and ingeniously constructed of seal skin over a whale-bone frame work, the former being sown with the tendons of the reindeer, and a bone needle, when no other can be procured. They are extremely buoyant, propelled by a single paddle, are generally about sixteen or seventeen feet in length, and weigh about forty-five pounds, so that they can be carried on the shoulder with ease. They contain all the implements of war and the chase, everything in its place, so that an Esquimaux in his kayak, is provided with all he can possibly require, and has ample room for a good supply of food.

They were resolved to proceed to the ship, then distant about ten miles. Several preceded us, and it was beautiful to witness the regularity and order of their advance—maintaining a proper distance between each, which did not vary in the least as far as we could observe. We were anxious to witness a display of their skill when in chase of the Whale, in the use of the spear and harpoon, which they throw with great dexterity, recovering the weapon with wonderful rapidity. These harpoons have a piece of inflated skin or the bladder of animals attached to the upper part

by a tendonous cord or a Walrus hide thong; and when thrown, the barbed portion becomes detached from the shaft, when it hits its object, the skin still adhering to it. In this way, a Whale is pursued by the men in kayaks, and receives such a number of these wounds in quick succession as it comes to the surface, and becomes so worried and exhausted from loss of blood, that escape is very rare. The spear was also thrown with great accuracy; the heads of these and the harpoons are for the most part made of bone; flint is sometimes substituted both for them and arrow heads—some of the latter were made of iron.

The wind continuing from the west was against us, and we were obliged to work through floe ice, which much retarded our progress. The kayaks did not follow us, but wisely kept on a straight course, and when ice came in the way, the Esquimaux landed on it, hauled up their little boats, emptied them of any water they contained, and carried them across the floe, launching them on the opposite side, when they again proceeded on their way. On clearing the ice, there was a little sea on; but they, nothing daunted, kept on their course towards the ship. One of them had detached himself from the others and followed in our wake—the sea washing over his little kayak, of which he appeared quite regardless. He excited our compassion, and we invited him *and his boat* on board, which he accepted, and the latter was soon

The despatches were delivered to the chief of the tribe, and a gun presented to him as his reward for their safe care and transit, which he received with eagerness and delight. We fully instructed him in its use, and loaded it in his presence. He fired it with great coolness, amid a general shout of joy from his brethren; a hundred rounds of ball cartridge were added to the gift. On receiving the gun, the young men and warriors of the tribe returned to the Cape, with a view of getting their kayaks and escorting us back to the ship—the older men and women remaining. We distributed many presents, consisting of knives, scissors, files, beads, hatchets, kettles, boilers, with needles and pins to the women, with which they appeared greatly delighted. The boat was then ordered to be got afloat; but several who surrounded her in the water appeared but little disposed to let us depart, and held on by the gunwale; a few of the women had actually got into the boat despite the best efforts of our men to prevent them, and could only be removed by force. One of them, a bold, Amazonian-looking creature, was a most audacious and determined thief. She had made an attempt to steal several articles, and had actually succeeded in taking the boat's compass out of the binnacle, and concealed it in her bosom beside her infant: when observed, it required some force to take it from her. One of the men endeavouring to retain it, was immediately thrust out of the boat, but made repeated

attempts to get in again. They became exceedingly noisy and clamorous, more particularly when they saw many articles intended for presents still remaining, which so greatly excited their cupidity that, as I was subsequently informed by the interpreter, they gave the "war whoop" for attacking and plundering the boat—a circumstance that we, who were ignorant of the language, were not then aware of. All the warriors of the tribe had previously taken their departure; otherwise unpleasant results might have ensued. The remainder of the presents were issued to them, when we made them aware that we had nothing farther to bestow, and asked them to assist us in getting the boat afloat, which some of them did. We did not obtain much information from them with regard to the existence of land to the northward, of which they appeared to be quite ignorant. They said the land of the White Bear was in that direction, at the same time pointing to the north, which subsequent experience fully confirmed from the great number we saw of these animals, and they appeared to entertain an accurate idea of their prowess and ferocity; one of the women uttering a piteous tale of her child having been carried off by a bear, a short time before, close to where we stood.

After great trouble and exertion we succeeded in getting the boat afloat, when we again made sail and took leave of our friends on the beach, followed by a mosquito fleet of seventeen kayaks, which had

have no doubt, from their appearance, they are as valiant in war as expert in the chase. The women were tatooed with the usual lines on the chin. I was astonished to see so many young wives and mothers amongst them; one, in appearance and expression, much the most interesting of the whole, had a good complexion, large, dark, sparkling eyes, beautiful pearl-like teeth, aquiline nose, a most luxuriant crop of raven-black hair, small and delicately-formed hands and feet, and her pleasing features radiant with smiles of cheerful good-humour, much excited my interest. As I advanced to make her a present, she put a hand behind her back, and drew forth by the legs a naked infant only two days old, carelessly exposing it to the cold and snow then falling. She appeared, also, much too youthful to be a wife. The child betrayed no sign of uneasiness; but I directed it to be returned immediately whence it came. Several children, or rather infants, were similarly treated; and, as the mother's pointed to them, it was evidently done; no less to excite our sympathy than our liberality.

We commenced negotiations for the transmission of the despatches with the head of the tribe, and the elder members of it. We made them thoroughly understand their nature—*that they were words to our brethren in a far country*—which, if delivered safely, would be more valuable to them than a Whale, as they would receive many presents. They faithfully pro-

mised to do what was required. We now became on more intimate terms; and they invited us up to the encampment; but the interpreter did not consider it prudent, from what he judged of their character, to accept the invitation, and recommended that we should return to the boat, and distribute the presents, which to expose then might be attended with danger, by exciting their cupidity. We, therefore, turned towards the boat, followed by all the men, women and children—a wild and picturesque party. Each of us appeared to have a group of followers; the women laying hold of our arms, and attempting to walk with us in European fashion —a degree of familiarity it was not safe to allow with a people generally treacherous and deceitful. They are, in this way, frequently made the agents of the men, when an attack or plunder is premeditated, instances of which are narrated in the early journeys of Franklin and Richardson along this coast, when the women laid hold of the men's arms in the boat, with a view of ultimately overpowering, and rendering them unable to offer resistance. While thus walking, some of our people had their pockets picked, the thief taking advantage of their arms being held by the women. On reaching our boat we found a few kayaks had preceded us They now became exceedingly clamorous for presents; and a line of demarcation was again drawn on the snow, only to be passed as before.

safely stowed in our capacious cutter. The poor fellow being wet and cold, we gave him some bread and meat, but he evidently did not relish it so well as the blubber and other food familiar to him; and placed it in the kayak. We made him several presents for his wife and little son, of whom he reminded us. In tacking from time to time, he, as it blew fresh, and the cutter inclined much to leeward, betrayed evident signs of alarm, and clung tenaciously to the man sitting next him; no doubt he would have felt himself much more secure in his own little craft.

We reached the ship about 6 P.M., after our long but very interesting excursion, wet and cold, it snowing heavily at the time. Before going on board, we presented our friend with the boarding pike and white ensign, under which we had met his tribe, and he appeared much gratified. The greater number of the kayaks that had left the shore were alongside, and were hoisted on board with their owners generally occupying their seats.

Numerous amusing incidents occurred during their short stay, and they participated largely in the bounty of the men, who gave them a great quantity of clothing, &c. One was immediately converted into a marine, and it was amusing to witness him as soon as he was equipped in the uniform, going to the gangway, and holding up legs and arms successively to his astonished brethren alongside; displaying his

new costume with which he appeared uncommonly well pleased.

We weighed anchor and stood to the south-east to get clear of the islands, and our Esquimaux friends were obliged to take their departure. Before leaving the shore, the old chief, a man about sixty-eight years of age, had civilly asked us to stop the night at the encampment, offering to place his tent at our disposal; and as they had killed a Whale, he promised us a rich repast on its delicious blubber. It was evidently a period of feasting with him, as is always the case when success attends their efforts in the chase.

On the following morning, (Sunday, September 1st) the weather had become milder, and the sun's rays shortly dispelled much of the dreary aspect of the neighbouring lands. We had reached within about six miles of Cape Bathurst, which bore N. by E. and with a light wind, we continued to move slowly along. Towards noon, two kayaks were observed coming out in the direction of the most northerly of the islands, gliding swiftly and gracefully over the surface of the sea, which they barely appeared to touch, dexterously propelled and guided by their solitary occupants, by means of the double bladed paddle. The ship was soon reached, and we recognized two of our friends of yesterday, and hoisted them and their kayaks on board; one of the latter was leaky, and the wily Esquimaux immediately set about to discover the cause. Everything was

boats having visited them last summer, from whom they obtained knives and a few buttons in barter. One of the former they showed us. It was marked on the blade with a Maltese cross and the letter L. They could not give a satisfactory account as to their numbers, but that they had gone eastward. We scarcely knew what amount of importance to attach to this story. Whether it was related by these cunning people with the hope of gain, or that any other exploring party had passed along this coast, we were at the time ignorant; but I think it must have been the party of Sir John Richardson—assuming that the Esquimaux were in error as regards the period, it having been two summers since that expedition visited the coast. They said also that one of the former parties had told them that a great oomiak would come along the coast, and give each of them a gun. Now it so happened, they had observed the ship's muskets piled together in the armoury—it having been casually left open, and, being in an exposed part of the ship, could not escape their observation—and nothing could convince them that these were not the long-expected guns; that we were for the great oomiak they had heard of, there could exist no doubt—a belief on their part which gave us much trouble; and we had some difficulty in getting them out of the ship. We pacified them a little by saying, if we should come again and hear of the safe arrival of our letters, we would give a gun to each man who had

caught a Whale. An agreement of this kind is by them generally considered satisfactory. But we were not destined to retrace our steps along the American coast; our promise consequently remains, and is likely to remain, unfulfilled.

About 4 P.M. the weather became foggy. They took their departure, but it was only by hoisting out their kayaks that they could be forced to enter them; appearing by no means tired of our company. They then proceeded towards the islands with extraordinary speed.

The Esquimaux call themselves "Innuit," which signifies "man;" but the name by which they are now known is not considered to belong to their language, which along the entire line of coast we visited as far eastward as Cape Bathurst, did not differ very materially from that of the natives of Labrador and the extreme parts of the American continent, more than what might pertain to an ordinary degree of provincialism in other countries. Our interpreter, however, informed me that he had less difficulty in understanding the Cape Bathurst Esquimaux than those more to the westward, from its greater similarity to the Labrador language, with which he was thoroughly conversant. In appearance they certainly favour the Mongolian race. They are met with in the north-eastern extreme of Asia, the Aleutian Islands, along the entire coast of America, and as far eastward as Greenland, to the

occupied the centre seats to paddle, the men at either end to direct the steering; but all the labour devolved on the poor women.

I took their sailor countryman to the gangway, when they raised a wild yell, doubtless of surprise, on seeing him. They put on their best dresses in the boat, and came on board in holiday costume. I remarked before it more closely resembles that worn by the Indian women rather than the Esquimaux. The hood is high and imposing in appearance, ornamented with feathers, and profusely decorated with beads in front. It adds wonderfully to the apparent stature of these women, and produces a generally good effect. The owner of the leaky kayak, as soon as his countrywomen came on board, seized one of them and pointed out to her the hole in it. She immediately procured a needle from him, and thread of reindeer tendon; and, with great quickness and cheerfulness, set about the repair, which she quickly accomplished. I naturally assumed she was his wife; but such was not the case, as I found on inquiring. This incident tends to show with what readiness they work for and oblige each other—numerous instances of which came within my observation. They roamed freely about the ship, were noisy and clamorous for everything they saw, and were particularly charmed with the sight of a looking-glass which they could not at all understand: we gave them a few small ones, and several other presents. They were very anxious to see the women of our

tribe, and wished to know where we kept them. Some one pointed to the officers cabins, and said they were in those little houses—giving an idea of their domicile by showing the interior of one; and in this belief they left the ship. They gave us an illustration of one of their heathen dances to the music of their own voices, which was grotesque, but otherwise uninteresting. The men displayed great agility in leaping over bars on the upper deck, at a much greater elevation than our men could attempt; but in lifting weights, they were far surpassed by the latter, as they would have been in any other feat of strength.

We again sought for information from them respecting any parties that had visited the coast, when they repeated truthfully all we had previously heard of Sir John Richardson's party. On my making inquiry as to the appearance of the Chief of the party, they described him most accurately; and the captor of the Whale, who was merely an attentive listener of the conversation, at once imitated the firm upright gait of my friend Sir John, by walking along the deck; leaving but little doubt of his being readily recognised by these people should he again visit their shores. Observing that we took a great interest in all that related to the visits of travellers along the coast, after we had presented one of the party with a harpoon, and instructed him in its use, they told us for the first time, of a party with *three*

taken out of it, and I had an opportunity of seeing how well they were stocked, including spare materials to repair any disaster that boat or implements might sustain. Several others soon came on board and walked about the ship in mute astonishment, at what they saw. One of them fearlessly went up the rigging on being desired to do so, as high as the main-top, and would have gone up to the truck, but was prudently called down, lest an accident might occur.

They told us there had been great excitement amongst them the previous night in expectation of our visit; that they had been busily engaged in using the cooking utensils we had given them, in preparing large quantities of fish, venison, and whale blubber in anticipation of a great feast in our honour, and still appeared anxious to regale us with these delicacies. The interesting-looking fellow who captured the Whale was one of the party on board, and his good-humoured smiling face and vivacity of manner made him a favourite amongst the men. He was taken below, and, from their united contributions, was speedily converted into a *thorough tar*. Apparently much delighted at the change he had undergone, he discarded his skin clothing, and put it away in his kayak. It was amusing to see him walking the deck in great dignity, with his hands in his pockets, and a good sailor-like gait. He did not appear so imposing as in his own costume: his size and stature suffering by

the change; but he was very proud of it, and took every opportunity of exhibiting himself to his admiring countrymen. He went on shore as a sailor, and doubtless proved a formidable rival to the corporal of marines created the day previous.

It was ludicrous to observe the others, on beholding our friend so largely the recipient of our bounty, become suddenly affected, an aguish tendency having apparently set in, which, in the first instance, had the appearance of reality, as they walked about the deck, trembling in every limb, and drawing their skin garments at the same time closely around them. Our sympathy was excited by one who had a more miserable appearance than the others. He was taken below, and received a large warm flannel shirt, which he put on under his coat. He no sooner came on deck, than he stealthily took it off, concealed it in his kayak, and commenced shivering as before, but to no purpose. The trickery was discovered by an old quarter-master, who expressed his indignation in no measured terms; and the aguish paroxysm, meeting with no farther sympathy, soon disappeared. Several had succeeded in this way in getting articles of clothing, before the deception was discovered. I was led by curiosity to place my hand on their skin, which I found to be of a high temperature. An oomiak, containing five women and four men, whom we recognised, came alongside in the course of the day from a fishing excursion. I observed the women

south, as Hudson's Bay, and to the north as far as has yet been explored. They entertain a very exalted idea of their own importance, and consider themselves much superior to the Kabloonas, or white men. They were always very anxious to know if we were married, a question which the interpreter considered necessary to answer in the affirmative, as they entertain a great contempt for men who are not in that happy state, whom they consider boys; and a man's greatness is ever proportionate to the number of his wives. At our last interview many of them had brought down pieces of whale blubber for barter; but failing in that speculation, they devoured it ravenously—affording disgusting evidence of the great capacity of their mouths, which they quite filled with the blubber, cutting off with a knife what remained outside.

The physical characteristics of the Esquimaux, I have already mentioned; and the race we saw afforded ample evidence of their being possessed of superior strength. They are generally well proportioned, with full, capacious chests and well-shaped limbs. From several measurements which I made, the average height was 5 feet 4½ inches; but those apparently of Indian origin were taller, from 5 feet 7 to 8 inches, and in one or two instances even more. Their expression is by no means unintelligent. The complexion is swarthy, chiefly, I think, from exposure and the accumulation of dirt; the head is of good size, rather flat superiorly, but very fully developed posteriorly, evidencing a pre-

ponderance of the animal passions; the forehead was, for the most part, low and receding; in a few it was somewhat vertical, but narrow. The full-expanded nostril, broad face and high cheek-bones, were well marked; they possess also keen, restless, small black eyes—the external commissure drooped somewhat. There is generally an absence of beard and whiskers, or they are represented by a few hairs; in the old the growth is more luxuriant. The cavity of the mouth is one of the most capacious I have seen, with a regularly shaped, powerfully-formed lower jaw, and large, well-formed teeth—the incisors presenting a peculiarly flattened crown, as if worn down by attrition from frequent mastication of hard substances. The hands and feet are generally small and well formed. They live in a heathenish state, but appear to have an idea of the existence of a Being superior to themselves, whose favour they wish to propitiate to ensure success in the chase, or other expeditions. This is represented by a small ivory fetish, with the figure of some animal rudely carved on it, which they sedulously carry about their person, but will part with for a suitable price.

In the Esquimaux, westward of the Mackenzie River, we observed the lower lip perforated in the males, for the admission of labrets or lip ornaments, which detracts much from the general expression; and when removed, the holes beneath either angle of the mouth, each about half an inch in

diameter, imparts an exceeedingly disgusting appearance to the face. These labrets are generally formed from different kinds of stone or ivory, such as granite, gneiss, green-stone, lignite, &c., and are, in length, about three-fourths of an inch, with flat or oval crowns at either end, connected by a stock, and fashioned after the manner of a dumb bell. They appear to be entirely worn for the sake of ornament; but I did not observe them in the women, or in those tribes eastward of the Mackenzie. The lip is perforated for the labret as the boy approaches manhood, and is considered an important era in his life. The septum of the nose was perforated, in many met with along the entire coast, by a small piece of ivory about three inches long, tipped at either extremity with a bead. They do not appear to attach importance to any of these ornaments, as they will readily barter them, or any other article of clothing or equipment, for what desire may prompt them to possess.

Their clothing is almost universally composed of deer-skin, the fur inwards. The lower garments are sometimes continuous over the feet and legs; but more generally, the boots are separate, with a coat or jerkin covering the body, ending behind in a peak. A hood is attached to the coat, which is the only head-covering they use. The dress of the women is made sufficiently capacious to allow of their carrying their young children (for whom they appear to entertain much affection) either in the hood, or in contact with

their skin, and they manage to do it very adroitly—many amusing instances of which we were witnesses of.

Polygamy exists among them, when the women are sufficiently numerous; the number of the wives depending on the wealth of the husband, and his ability to maintain them. They appear to be bound by stronger bonds of affection than is usually observed amongst savage nations; but their standard of morality is evidently low; and a husband will readily traffic with the virtue of a wife for purposes of gain. Repeated instances of this were evinced in our intercourse; and no feeling of jealousy appears to exist amongst them. The women are, to all intents and purposes, the slaves of the men, and do the greater part of the out-door work, except hunting and fishing; they, however, enjoy a higher position, and more consideration than is usual amongst savages. The women manifest affection for their children; but the father appears to be stoically indifferent. They are not a prolific race from all I could learn; and male children are ever more welcome than females. Both sexes are tatooed, chiefly on the chin, angles of the mouth, and across the face over the cheek bones. The operation is had recourse to as they approach the period of puberty; and successive lines are subsequently added in the male, according to his prowess, or success in war or the chase. They have no idea of numbers, more than what is represented by the fingers; nor can they express their ideas of time in any other

way than by the indications afforded by moon and sun, which are vague and unsatisfactory.

They are keen and expert hunters, and afford ample evidence in their appearance, look and movements, of being possessed of all the essentials to ensure success in the chase; and when so much depends on the result of their exertions—nothing short of their existence as a race amid the dreary wilds of their abode—it may readily be imagined how keenly the perceptive faculties are exercised, when such powerful incentives are ever present to prompt them to exertion. In regions where nature is so sparing of her gifts, with the exception of the animals which frequent it, I need not speak of the enduring patience, hardships and privations, which this enterprizing hardy race are compelled to undergo, along the inhospitable, snow-clad coast, of the Polar Sea.

They are as far as we could judge, courageous and active—Sir J. Richardson says, "more so than any known tribes of Indians with which he is acquainted"* —industrious and provident, sly and cunning, and much given to pilfering and cheating, when engaged in barter. Numerous instances of their being possessed of both propensities occurred on board, where their cupidity became much excited by what they saw, and where there existed no moral, controlling power to restrain them. They are much addicted to falsehood,

* "Boat Voyage through Rupert's Land."

and seldom tell truth, if there be anything to gain by departing from it; indeed, amongst some tribes lying is said to constitute a virtue. Almost everything they saw, they made an attempt to steal—chiefly articles of iron from the ship—and when detected, they manifested no sign of shame or remorse. I was unable to ascertain with any degree of accuracy, what were the prevailing diseases among them; cutaneous diseases and chest affections appear the principal, as may be inferred from their filthy habits, and rigorous climate. I saw several old people afflicted with chronic bronchitis, and asthma, and one or two had wens on the head and neck. Scurvy occurs with more or less severity, I believe, every spring; and as an antiscorbutic they eat the sorrel, grasses and mosses; and the contents of the stomach of the reindeer is considered by them a highly efficacious agent. They all appear to suffer more or less from opthalmia—in the old people it is very common, with eversion of the eyelids. Several appear to have lost their vision from opacity of cornea, the result of frequent attacks, produced by the combined influence of snow and sunshine. I saw none labouring under any form of congenital disease or deformity, and from what we could learn, there is seldom any mortality except amongst the old people and very young children; resulting in the latter, I should say, from the effects of exposure. When famine exists or accidents occur, of course the case is

different. Their ingenuity in constructing implements of war and the chase, in preparing skins, so as to render them waterproof, in the building of huts, and that triumph of architectural skill the snow house; the perseverance and tenacity no less than the success with which they follow the chase; their powers of patience, and endurance of cold and hunger, are unequalled by any other race on the face of the globe.*

I trust the day is not far distant when the light of civilization will dawn on this poor, benighted, but intelligent race of beings; for it is deplorable to think that there exists in the Queen's dominions people so utterly neglected as they have been, without an effort having ever been made by the rulers of their land (Hudson's Bay Company) to ameliorate their condition, or remove them from a state of heathen darkness. But where monopoly exists, progress is arrested; and it is to be hoped the wisdom of our legislature will, ere long, destroy the one and promote the other, and thus develope the resources of their country to the permanent advancement and happiness of its inhabitants. The laudable example shown by the Moravian brethren on the dreary coast of Labrador, and the good results which have

* For full and interesting details concerning these extraordinary people, I beg to refer the reader to the admirable and interesting narrative of Sir John Richardson, in his "Boat Voyage through Rupert's Land."

attended their meritorious labours in the work of civilization, is worthy of our imitation, and will, I trust, be followed.

The facility attending the opening of steam communication, by means of vessels of light draught of water, along the coast of America during the summer months, has been fully established by the results of our voyage; presenting a fair field for the commercial spirit and enterprize of our country, and every prospect of remunerative advantage.*

* Since the above remarks were sent to press, I am happy to say, that this subject has been brought under the notice of the House of Commons by the Secretary of State for the Colonies (Right Hon. H. Labouchere), and a select committee have been appointed to inquire into the same, as well as into the expediency of renewing the Charter to the Hudson's Bay Company; its validity having been questioned from the non-fulfilment of the conditions on which it was originally granted.

CHAPTER VIII.

Departure from Cape Bathurst—Aurora Borealis—Ice—Currents—Franklin Bay—Rain—River Horton—Aspect of Land—A Bear—Refraction—Strange Appearances on Shore—Report of the Ice Mate—The Ice—A Boat despatched to the Shore—Whales and Seals—Cause of strange Appearances—Volcanic Mounds—Weather—Difficulties—Character of Coast—Incident on Board—The Evening—Ship Beset—Cape Parry—Land discovered to the N.E.—Opinions—Position at Evening—Sunset—Aspect at Morning—Possession of Land—Name bestowed—Its Character and Incidents—Appearance of Headland and Coast—Birds seen—Progress—Incidents—Shape a Course to North-East—Weather—Difficulties—Sight of Land—Hopes and Conjectures—Currents—Temperature, &c.—Discovery of Prince Albert's Land—Discovery of Islands—Appearance of Sea—Position—Weather—Ship Beset—Gloomy Evening—Occupation—Change of Prospects—Attempt to force a Passage and Failure—Position—Amusements—Altered Aspect of Ice—Secure to Ground Ice—Sudden Departure—Difficulties—Birds.

We stood off the land until the impenetrable pack was again encountered, and as there was no water to be seen to the north, we kept along its edge

to the E.S.E., through heavy loose ice. We had long hoped our efforts from this prominent point of coast would be successful, only to be again disappointed by the same obstacles; but as we were approaching that meridian in which land had been seen thirty years before, some three hundred miles to the northward, we never relinquished the idea that a better fortune was in store for us.

The Aurora Borealis was faintly seen for the first time on the night of the 1st September, but was much obscured by the dense haze which prevailed—it extended from N.E. to S.W. The force of a current setting N. 14° W. from 20 to 25 miles a day, nearly antagonized the power of the wind, and it was not until the 3rd, that we got to the Eastward of Cape Bathurst, and entered Franklin Bay, having been off the former for the previous three days. On the 2nd, we saw two White Whales, (*Beluga Borealis*) and a Narwhal (*Monodon Monoceros*) going to the westward. The trending of the pack edge brought us into a fine capacious bay, the limits of which we could not discern, bearing the honoured name of Franklin. Large floes which had drifted off from the land were met with at its entrance; they assumed a much bolder and more elevated character; and the water had become much deeper, the soundings varying from 63 to 115 fathoms. Heavy rain fell on the night of the 3rd and morning of the 4th, which was followed by a rise of tem-

perature from 32° to 45°, and the weather became much more agreeable than it had lately been, the wind at the same time gradually veered round to the west. On the afternoon of the 4th, we were off the entrance of the river Horton, where the water as usual became more discoloured and lower in density. As we approached it, several shoals were passed over in ten and thirteen fathoms of water—doubtless caused by the accumulation of alluvial deposit. The land on either side of this river, gradually rises to an elevation of nearly 200 feet, with numerous small mounds and ridges scattered on its surface, which on casual observation much resembled huts. Smoke was observed some distance along the coast to the southward, which was anxiously watched, for any sign that could indicate the presence of human beings; apparently it proceeded from an ordinary fire. As evening closed in, we had not reached sufficiently near to satisfy our curiosity on this point.

A large White Bear was discovered swimming towards a piece of ice, but too distant for pursuit; several Whales and Seals were also seen, and numerous flocks of Ducks in the course of the day—the latter going southward. The refractive powers of the atmosphere appeared to wonderful advantage at various periods of the day; the loose floating ice, presenting a beautiful columnar structure, which became so closely identified with the land, that an unpractised eye would fail to discover the latter; the

glassy smoothness of the water, and the larger masses of ice interposed over its surface, contributed much to the beautiful effect produced.

Rain fell heavily on the morning of the 5th, but towards noon the weather became calm and clear. Smoke was again observed rising vertically against the dark back ground of the land, which appeared about 250 feet high. Its continuance had much increased the interest we had felt on first observing it, as it was not unreasonable to suppose, a fire might have been kindled by people who possessed no other means of attracting observation. We considered it very improbable that the Esquimaux would have kept up a fire for so long a period, and as they are never without boats, that they would have attempted to communicate before this. We could only arrive at one of two conclusions—either that it was a fire kindled by strangers, or that it proceeded from some igneous agency in the soil; the former opinion however prevailed, as the ice master reported from the mast-head that he saw the flame of the fire, huts on the shore, and people moving about in light coloured clothes.

Lieutenant Cresswell and myself were despatched in the second whaleboat to ascertain the truth of this report. The spot being distant about ten miles from the ship, we had a long pull, in the course of which we met with a great number of Whales—at one period we counted no less than fifteen above water,

several of which came quite close to us, and might with facility have been harpooned. Seals were also numerous; they were moving about quite sluggishly, apparently free from care or strife, and equally ignorant of the harpoon of the Esquimaux. When we approached the shore, there remained no doubt as to the entire absence of a fire, and the other creations of the ice-master's imagination; the smoke being entirely the result of chemical action in the soil—slender columns of it emanating from small mounds, were borne along the precipitous coast by a light westerly breeze. The boat grounded some distance from the beach; and, on stepping out, I sunk deeply into soft clay. I found that a land-slip had evidently taken place. The soil was of bituminous shale; clay and loam, of a red, black, and yellow colour were singularly blended together. Dense columns of smoke issued from miniature volcanic mounds; not from any well-defined crater, but from their top, into which a pole could be thrust, as if into a cavity—so little adherent were its particles—and large masses of lime and sulphur, variously combined with other elements of the soil, including alum and silenite, were then dug out in a burning state. Their surface appeared as if in a state of fermentation, from the light spongy nature of the soil, and so hot that we could not stand on it many minutes. These mounds formed quite a little amphitheatre, inclining from the sea at an angle of 45°, and elevated in height from ten to thirty feet. Several of them were stra-

tified with black and yellow alternately—clay and sulphur; and others had quite a laminated appearance, stood entirely detached, and were chiefly composed of dark, rich loam. In the intervening space between them, I observed numerous bright yellow lines, formed on the black surface, not more than half an inch deep; being sulphur deposited from the line of smoke, strongly impregnated the atmosphere. There were several small rills of running water, elevated in temperature, in various states of combination, with the substances mentioned, into which sulphuric acid entered largely, from its taste and action on cloth, and other substances with which it came in contact. The general appearance of this part of the coast conveyed to my mind an idea of similar chemical agency having previously existed on the bed of the ocean, prior to which, the sedimentary deposit from the superincumbent water may have filled up the interstices of the cones, so as to impart that line of evenness and uniformity it now presents. A distinct line of demarcation ran horizontally along the coast, as far as we could observe, dividing it into two equal portions; the lower half presenting a vertical surface to the sea, as if a section had abruptly fallen off from want of sufficient cohesion to maintain its primitive form; and displaying to the eye the same variegated and stratified appearance of black, red, and yellow, I had observed existing in the small

mounds from recent action. The upper half partook more or less irregularly of what the upper half of a cone might be supposed to represent; receding from the lower at an angle about 20°, with the beds of water-courses, or rather small cascades intervening; and altering in some places its conical character, which, during the season of thaw would doubtless present a very picturesque appearance. This was the most eastern and last point of the continent of America we had an opportunity of visiting. After nearly an hour's examination of the locality, we took our departure for the ship—that had stood in towards the shore to meet us—which we reached, escorted, as before, by numerous Whales and Seals, whose gambols in the water much enlivened our cruise.

During our absence, a volcano of some activity had been discovered in the main hold, caused by an accident in the apparatus connected with Sylvester's stove; but it was extinguished without much damage or destruction of stores. As evening closed in, the wind freshened considerably from the west, and subsequently south-west. The night was dark and dreary, and sailing through loose ice, we came into heavy collision with it frequently. There was every evidence, from the heaving of the ship, of there being a good expanse of open water to the northward, and the wind being off shore, we expected to see the ice driven well off on clearing the bay the following morning.

Having made good progress during the night, at

4 A.M. on the morning of the 6th, Cape Parry was observed; and as no impediment lay in our course, N. 55° E., it was soon rounded—having passed a small island off it in twenty-two fathoms water. The Cape, viewed at a distance, appeared bold and lofty, between four and five hundred feet high, and gradually identifying itself with the lower land stretching away to the south-east. The strong south-westerly wind, as we predicted, had set the ice off the coast, and although still in an ice-encumbered sea, there was a large expanse of intervening water which enabled us steadily to continue our advance, as all eyes were anxiously turned to the north.

At 11·30 A.M., the joyful report of "land on the port bow" was proclaimed from the mast-head; and as noon dispelled the haze which hung around its lofty outline, and revealed it to our delighted eyes, it bore from N.E. to E.N.E. distant about thirty miles. I need not attempt to describe the feeling of joy which this pleasing intelligence diffused amongst us; of the hopes indulged in, or the variety of opinions entertained and freely expressed. All eyes were directed towards it for the remainder of the day, anxiously looking forward to our soon reaching this newly discovered territory. Some thought it would prove to be a continuation of Wollaston Land, others that of Banks' Land as we had then nearly reached its meridian; but whichever it might prove to be, the interest was absorbed by the feeling of confidence

universally entertained that the land before us would prove a certain guide to lead us to the northward—perhaps to Melville Island.

The wind gradually fell light towards evening, and we continued working through loose ice until we had reached within ten miles of our discovery; which appeared still bolder and more imposing in its outline. As if to add to the cheerful feeling we experienced, the sunset was peculiarly beautiful, tinting the western horizon with colours no effort of art could pourtray—the most brilliant scarlet and crimson, stratified on a rich neutral ground, formed by a harmonious blending of all the elementary colours of the rainbow, a picture of pure Arctic scenery, stillness and beauty, which cast an auspicious halo around this new land.

Having advanced slowly during the night, at 8 A.M. we had reached within two miles of the magnificent headland we had just seen, and could obtain no soundings at 120 fathoms. Preparations were at once made for landing, and taking formal possession of it in Her Majesty's name. Accordingly at 9.40, Captain M'Clure and myself left the ship in the third whale boat, followed by Lieutenant Cresswell, and as many of the officers as could be spared, in the first cutter. The morning was cold, but with a fine clear atmosphere, and a fresh breeze from the north-east, with joyful hearts we pulled towards the shore. As we approached, we found the ice still packed on

the shore, that obliged us to get out and haul the boat over the floes into clear water, which led us on to a fine pebbly beach, eastward of the Cape, extending out for some distance, and it could be distinctly seen to be of great depth from its perfect transparency.

On landing we unfurled a red ensign, and planting the flagstaff in the soil, took formal possession in the name of our Most Gracious Sovereign, with three hearty cheers, and one cheer more; bestowing on our discovery the name of "Baring," after the First Lord of the Admiralty, under whose auspices the expedition had been fitted out. A scroll, containing the ship's name, and those of the officers, &c., was placed in a bottle, and carefully secured in a cask fixed in the soil, with a pole about fifteen feet high attached, to attract the attention of any subsequent visitors to Baring Land.

Although it subsequently proved to be continuous with Banks' Land, a portion of whose northern outline was seen by the late Sir Edward Parry (that distinguished pioneer of Arctic discovery) from Melville island, thirty years previous, he had never landed on it, and as we were entirely ignorant of its continuity at the time, there could exist no possibility of a doubt, of our right to take possession of, and name it, as we did.

We at once proceeded to make a hasty exploration of the land, and meeting with a rivulet on our way,

paused to drink the Queen's health, with a blessing, in something stronger than the limpid element, that formed a part of the beverage. I detached myself, with an attendant, to procure whatever specimens of Natural History the land afforded: its surface presenting quite a different character to that we had lately visited on the main. Instead of a rich, luxuriant peat soil, sterility and barrenness met the view; sand, shingle, and broken stones, with patches of verdure interspersed here and there, ornamented with a few pretty little saxfraginous and other plants, formed the oases of a scene, they pleasingly relieved and enlivened. As we had landed on the broken land eastward of the Cape, the ascent was rendered extremely difficult from the mass of *débris* and large rugged stones strewn over its surface. I had, however, nearly attained its summit, when I was reluctantly obliged to forego any further ascent, it having been determined to return to the ship, then working along the shore; and as we knew not how soon we might be compelled to seek refuge here, it was ever an object of solicitude to seek for traces of animal life, of which in this short excursion we found abundant evidence. Tracks of Musk-Oxen, Reindeer, Bears, and Foxes were observed, with portions of the horns and antlers of the two mer, forand the skull of a Bear; a few Hares were the only living animals seen. Stones and pebbles of every variety of granite, and other volcanic

and aqueous products, were strewn along the beach; but the geological character of the land was of limestone formation, evident from the different specimens I procured.

The men were equally busy in their explorations, and were delighted with the short run they had had on land, which they familiarly called *their own*.

"The appearance of this coast, when viewed from the sea, standing on a north-east course from Cape Parry, is bold and lofty; it gradually falls away on either side from its southern extreme, or angle, in lat. 71° 5′ N., long. 123° W., extends in one direction to the north-west, and in the other to the east-south-east. The headland itself we estimated at 850 feet in height, but the summit of higher land could be seen in the interior, not less that 1000 feet; this presented a strikingly grand and imposing appearance, and to it the name of "Nelson" was given, in remembrance of a hero, not hitherto honoured by Arctic discoverers in the bestowal of their favours. The altitude gradually decreased on either side, until it ended in a low beach, some eighteen or twenty miles to the eastward, and then rose again in an undulating background, forming a continuous amphitheatre of ill-defined hills, so close to each other as to establish an apparent continuity of surface, but which are really separated by tortuous valleys and ravines. "Nelson's Head," therefore, as it is called, presents a bold, precipitous front, rising

almost vertically from the water's edge. It is of limestone formation, the lower third of dark brown stratification, above which it assumed a lighter colour of reddish yellow, such as a ferruginous coating might impart. This was surmounted by a dark grey columnar formation, much resembling irregularly-formed basaltic columns, with joints or fissures similar to what is usually observed in that formation; the whole capped by a covering of soil. The line of stratification dipped about 10° or 15° in an E.S.E. direction, and became lost as the land decreased in elevation. This dip was remarkable, and a prominent feature in the formation, but was less evident and more horizontal to the eastward, until finally lost in the dunes or low hills I have mentioned, where an abortive attempt at the same formation could be traced for some distance along the coast. A large quantity of *débris* had collected at its base.

As we only landed on the beach, and as time did not permit us to reach the cliffs, I am unable to say whether fossils are or are not to be found here; but, from the analogy subsequently afforded elsewhere on the island, I am inclined to speak in the affirmative. On the beach, granitic, quartzose, micaceous, clay-slate, and other varieties of water-worn pebbles were in abundance.

The appearance this bold headland presented while approaching the shore in the boat, and when viewed in

profile, was exceedingly fine; indeed I may state that its sublimity and grandeur, was only equalled by its picturesque beauty—producing an effect, I have seldom seen surpassed, and recalling forcibly to mind, but on a scale of greater magnitude, the finest of our old gothic structures and castellated mansions according as its position varied with our progress; but viewed from whatever point, it presented a grand and imposing aspect.

Having returned to the ship, we continued for the remainder of the day working along the land, the outline of which became more irregular as its elevation decreased, forming shallow indentations, or bays of limited extent; the background rising gradually to a height of 300 or 400 feet. It presented a brown, arid appearance, from the scantiness of its vegetation, but which I have no doubt is sufficiently abundant for its herbivorous inhabitants.

We saw several flocks of Brent and Snow Geese, the Fulmar Petrel, a flock of Ducks and a few Snow Buntings, in the course of the day; but failed to procure a single specimen. Our skill was evidently exceeded by our eagerness. As evening advanced, our prospects assumed a still more cheering aspect—a vast expanse of water lay before us to the eastward—scarcely a particle of ice was anywhere to be seen.

The following morning (Sunday 8th), we still advanced, working against a strong wind along our newly discovered coast. The usual Sunday routine

was gone through by mustering at divisions, and performing Divine Service; and truly thankful did we feel to the Giver of all good for the abundance of His mercies in guiding us thus far so providentially on our course, amidst the dangers and difficulties which had everywhere surrounded us. The weather continued clear and fine; a flying mist occasionally present, did not obscure our view of the land, close to which, in water varying from ten to seventy-six fathoms, we continued our advance. Its aspect did not differ materially from what I have before noticed; merely presenting a less elevated and more open character, as numerous large inclined plains were from time to time exposed to view. The soundings obtained were evidently identical with the character of the land, which was no doubt, at a remote period, upheaved from the bed of the ocean from the effect of Plutonic agency.

We had anxiously watched the bending of the coast the entire day; and as each successive point was rounded, ever hoped to see it turning off in a northerly or north-east direction, as we kept as close to the shore as circumstances would allow. It was not, however, until 8 P.M., as darkness was setting in, that we found we had, at length, rounded its eastern extreme; then following its outline, we altered course to north-east, and brought the land on our portbow, which converted the previous adverse wind into a fair one, by keeping the ship away a few points.

On the morning of the 9th, the weather underwent a marked change. The wind shifted round to the south-east; it became dense and foggy, at times obscuring the land from our view, along which we still continued to run on a north-east course with the aid of a light breeze. The water was smooth, nearly free from ice—a few loose pieces only being occasionally met with. Towards noon, the fog having partially cleared away, land was observed to the eastward on our starboard beam, running parallel to that along which we were advancing, distant about eight or ten miles. It was of the same appearance and character, and, as far as we were able to see, was running likewise in a north-easterly direction. Unfortunately, however, the fog soon again obscured it from view—the transient one we had obtained only added to our previous anxiety. It appeared to have dispersed only to afford us a momentary glance at this addition to our territorial accessions, and discover another land to vie with that of Baring, on which our eyes still fondly rested. With the exception of an occasional faint glimpse of its outline, it was not seen for the remainder of the day, and the fog hung heavily over both lands; still we continued to advance with all sail set, not knowing when our progress might be arrested. Many and various were the conjectures formed, and opinions expressed, as to what the land would prove to be, or where the water in which we sailed would lead. We continued in a

state of painful doubt and uncertainty—our minds agitated by successive feelings of hope and joy, but despair *never*—as to what a clear state of the atmosphere might reveal. Unfortunately, our surprise was not removed for the remainder of the day, as the fog became more dense than before, and we continued still groping our way through an unknown sea. A few pieces of floating ice were occasionally met with, one of which, for a short time retarded our progress. The water was deep from 35 to 75 fathoms, and from 29 to 31° in temperature, with a density of 1022. A current was found setting to the westward at the rate of 10 miles in 24 hours; the temperature of air was from 33° to 36°, cold and raw, and the variation of the compass was found to be 96° easterly.

Early on the morning of the 10th, the joyful intelligence of land on either quarter was reported as day advanced, and the fog cleared away, it could be seen running in a parallel direction on either side as far as the eye could reach; and the hope so ardently entertained, that this fine sheet of water might prove a Strait was likely to be realized, as we uninterruptedly pursued our way to the northward. Still the same anxious feelings pervaded our minds; and one almost felt afraid to give expression to one's hopes; lest the reports from the mast-head, frequently as they came, might destroy them.

At 8 A.M., when running in mid-channel, the land

on either side, distant some six or seven miles, an island was observed bearing N.N.E., about ten miles distant.

So smooth and tranquil was the surface of the waters —merely rippled by a curl to indicate the presence of the light breeze which bore us steadily onward—that we were forcibly reminded of the lakes in some of the wild and picturesque localities of our native land; varied, here however, by a line of stupendous ice, stretching far away along either shore. Towards noon we were abreast of the island, and instead of there being only one as we first supposed, there were two—the smaller and more northerly being in the same line, was concealed by the larger, from which it was distant about half a mile.

We had made such wonderfully good progress throughout the earlier part of the day, that at noon we were only sixty miles distant from the known northern limit of Banks' Land, to lead us into Barrow's Strait, and consequently to the discovery of a Passage. Our hopes then, indeed ran high; but only soon to ebb, equally low. At 3 P.M. instead of the bright and cheering aspect we had enjoyed for some days, the wind suddenly changed into the N.N.E. directly adverse to our further progress, and set the ice, not previously in sight, down towards us. Where clear water existed but a short time before, was now an icy sea. We continued to tack for the remainder of the day as was requisite, whenever the presence of

narrow lanes of water enabled us to steer the ship; but were often temporarily beset, as the ice closed from time to time around us. The change of wind had brought with it a marked diminution of temperature, with snow and fog: thus evening closed around us, as wild, gloomy and cheerless as it is possible to conceive; and in that quarter to which our eyes had been so constantly directed, where all our hopes were concentrated, nothing could be discerned but an impenetrable icy barrier. But, our hopes were not destroyed—we knew how a short period might alter even this dismal aspect of affairs: and our position was, at least, attended with one good effect—it enabled us to arrive at the conclusion, then more probable than ever, that the sheet of water in which we floated was a Strait: from the fact that the ice had suddenly come down on us from the north-east, the gradual divergence of the lands, then about twelve miles distant from each other, and the increase in the depth of water, soundings having been obtained from 70 to 80 fathoms. Under these circumstances there was great ground for hope, and we hoped for the best.

The ice which had been setting down toward us during the night, had early on the morning of the 11th, seized us in its grasp, and the ship became beset. By filling and backing the sails, in a few hours, we forced her through the barrier into a small space of open water, which enabled us, by tacking,

almost incessantly, to work through narrow intervening channels.

Thus we laboured, endeavouring, at least, to maintain our position until noon, when we were again beset about two miles distant from the eastern shore (Prince Albert's Land), on which the loose ice was then being drifted; and to obviate our being borne with it, the ship was secured with ice-anchors to the nearest large piece of floe-ice in fifty fathoms water. The wind in the morning had changed to north-west, and towards evening became still more westerly—a change we hailed with gladness, in the hope that the ice might again be drifted in the direction from whence it came, and that, if we could not extricate ourselves, we might be drifted with it, amid its perils and dangers, to the northern extremity of the Strait (if it were one), into Barrow Strait. As the aspect of this icy element is ever varying, fortunately for us, it again opened out a little, and as we were being drifted with it on the shore, we were enabled to cast off from the floe, escape the threatened danger, and make sail through narrow channels of water, endeavouring to get to the northward; but our progress for the remainder of the day was inconsiderable, and night closed in again intensely cold, wild, and dreary—the wind freshening, snow falling, and the temperature of air at 20°. The state of the ice a-head afforded anything but a cheering prospect, as we knew not the moment our progress might be arrested,

and the ship, perhaps, immoveably fixed in its grasp for the winter.

There was but little change in the general gloomy aspect around us on the morning of the 12th. We continued to take advantage of every open space that could be reached, through the heavy-packed ice that kept setting down on us; and nothing but one uniform frozen field could be seen to the northward. Towards noon we found all further efforts to advance impossible; and the ice gradually closing, we became firmly beset. The ship was attached to a floe of great extent—its undulating, hummocky surface, purely white from the recent snow, with numerous frozen ponds interspersed throughout, presented a striking feature in the scene.

The evening wore an uncommonly bleak aspect, snow fell continuously, the sky was overcast and lowering, with frequent heavy squalls; in short all around was dull, gloomy, and dismal. We were in high spirits, notwithstanding, and amused ourselves in sliding and skating on the ponds—both being a novelty to many. Frequent and heavy were the falls, and no less loud and hearty the laugh which resounded over the dreary ice waste, in evidence of the pleasure we experienced. The rudder was unshipped in the forenoon—not that we expected to do without it, but that, in the event of our being subject to heavy pressure, it might be in a safe position.

On the 13th, we found that we had not hoped in vain for a change in the aspect of affairs—transient though this was, and slight in degree; yet, instead of that dreary wildness pertaining to snow-storms, we had a clear, dry atmosphere with a temperature of 15°. The ship had drifted a little to the southward, from our greater proximity to the islands; but as the sun shone forth towards noon, we had the extreme satisfaction of seeing the ice gradually relax its frigid grasp, and the wind from the westward slowly driving it towards the shore of Prince Albert's Land, left a space of water of sufficient extent to warp her towards the centre of the Strait. All hands (officers and men) then manned the capstan with cheerfulness and alacrity—the hawsers having been previously laid out with ice-anchors by a cutter and whale boat in the large floe to which we intended to go. This was reached in the course of an hour, thereby gaining nearly 300 yards, and we were only separated from another sheet of open water by a narrow isthmus of ice about 40 yards wide, but through which we could not possibly penetrate. The ship was consequently made fast to the floe, which apparently extended uninterruptedly to the shore, as any further efforts to advance then would have proved utterly abortive. The report from the mast-head being favourable, as to the existence of narrow channels of water to the northward, could we only reach them,

we hoped soon to take advantage of a more favourable disposition of the elements.

We amused ourselves on the ice as before. A solitary flock of Ducks were seen winding their way to the north-west; and several Gulls were hovering about, one of which, the Glaucous Gull (*Larus Glaucus*), fell a victim to his curiosity, having boldly approached within a few yards of the ship. The land on either side had assumed its winter garb, but the sun had still a slight counteracting influence as was evidenced by the few traces of its dark brown surface that were revealed by his presence. The temperature was daily decreasing, having fallen to 10°; there was, therefore, every indication of the advent of winter; but we still hoped that the outlet of our new strait would yet be reached.

On the morning of the 14th, the ice presented a more open appearance; and to force a passage through the opposing barrier all our energies were called into activity. Ice anchors were laid out on the floes ahead, and the capstan was again manned by all hands; but we advanced only by inches, now veering on one hawser, then hauling on another; and our efforts, after several hours toil, proved utterly futile. The saws were had recourse to; and, after working them for some time, we again found our labour had been expended in vain. We then experienced how perplexing was ice navigation. What a tax on the resources and energies of man; indeed, what perse-

verance was demanded to surmount the obstacles ever to be met with, those alone can judge who have been placed in positions similar to what ours had been for the previous few days.

As the wind from the north-west had gradually closed the few remaining small channels of water, young ice was rapidly forming; and we were again closely beset. The general aspect of affairs was then extremely unfavourable, the sky being cloudy and overcast, snow falling, with an icy cold blast which froze its flakes together as they fell on our beards and moustache, nearly glueing up the mouth and eyelids. The amusements afforded by sliding had an admirable effect on the minds of our crew; antagonizing as it did, that depressing influence which our position could not otherwise fail to produce, and rendered them cheerful and active when the time for exertion came. Few could have supposed that helpless, ice-bound mariners as we were, with our ship in a most critical position, we could have experienced so much enjoyment. In the course of a few hours the wind had gradually veered into the south-west, the ice was observed to open in various directions, and a line of water was seen running along the western shore. On the following morning, Sunday the 15th, the westerly wind which had driven the ice from the opposite shore, set it down on that on which we were beset; but the lanes of water in sight having become more numerous and larger, another effort was made

in the middle watch to reach some of them, in the hope that they might lead us into the wide expanse of the same element then formed on the western shore, where, the day before, there was not a vestige to be seen. All hands were again called to exertion, but failed to move the ship more than a few inches; and we were ultimately obliged to fall back on our original position, awaiting a more propitious state of things with the coming daylight.

As morning advanced, we had the satisfaction of seeing that the wind was from the south, with a higher temperature, while we were drifting northward with the heavy ice in which we were impacted; this gradually relaxing its grasp, at 9 A.M. we found ourselves in a small space of water, the ice around us disposed to break up, from the appearance of fissures throughout the floes, and narrow lanes of water just perceptible. That channel which it was then our object to reach, was distant about 200 yards, and could be seen to communicate with the open sea on the opposite side. By our united efforts, we expected to force the ship through the intervening field of ice; but, unless aided by the wind to break up the floe, this would be impossible. Indeed, the work appeared to be very much like an impracticability.

Ice anchors were first laid out, and hove on from the capstan, when we moved a little. Others were laid out in different places, so as to swing the ship in that direction where the ice appeared most open. We at

length attained a position which enabled us to make sail; and we went a-head a few yards, but shortly were again beset. The ice anchors were once more had recourse to—occasionally astern that we might retrace our steps a little, or warp the ship where the ice appeared weak or loose, or turn the opposing floes out of our course. By these means, we advanced in a slow but progressive degree. Struggling on fearlessly, we reached a heavy floe piece, and, as the ship struck, remained for some time pressing against it. Some men being then sent on the neighbouring floe, were about to commence operations in another direction, when most unexpectedly this obstacle divided into numerous large fragments; and, in a few minutes, with a loud, grating noise, the 'Investigator' having forced her way through, was in clear water, making all sail for the western shore. Towards noon, we had got into a fine expanse of water; and, as we steered along the shore of Baring Land experienced a regular swell of the sea—evidencing open water far to the southward. As the ice would, doubtless, be drifted still further to the northward, we kept off its edge about half a mile, ready to take advantage of any opening that might present itself. We continued, therefore, tacking off and on until evening, when, observing a heavy floe piece about ten feet out of water grounded in five fathoms, and about one hundred yards from the shore, we stood in towards it, and made fast for the night on its northern side. We

could not but feel satisfied at the position our exertions had enabled us to attain, as we looked on the fine sheet of water that we had been so anxious, but a few short hours before to reach, and the distant pack on the opposite shore, from which we had so happily escaped. Our ship then lay resting against the floe, as if wearied with the conflict, and slumbering after the desperate but successful struggle of the morning. Our men, who had worked with the utmost zeal and activity throughout that trying day, had early retired to their hammocks, with every prospect of the southerly wind effecting much in our favour during the night, when about 9 P.M. the ice was observed in motion, rapidly approaching our position from the opposite shore; and the anticipated rest was suddenly disturbed by the call of duty. Our position was, by some, considered critical, as the immense body of ice setting down on us would, it was supposed, have afforded but small chance of escape, and, in all probability, might have set us on shore.

Others with the ice master, thought our position was rendered quite safe, from the protection afforded by the floe, and advised our remaining, rather than run the risk of being again beset—a view of the question in which I entirely concurred. It was, however, decided otherwise, and orders were given to cast off from the floe and make sail to the southward. The ice was then not more than one hundred yards from us, and formidable as its grim outline appeared in the

darkness, we found as it closed on us, it was nothing but fragments, which could not in any way have endangered our safety had we remained where we were. We were thus again in difficulties, and literally boring through loose, sludgy ice; whale lines were laid out for warping wherever they could be made available, and all the other usual means had recourse to; but it was not until midnight, after great labour, that we succeeded in reaching the open water. Early, however, on the following morning of the 16th, we were again closely beset, but in the course of a few hours, were enabled, by a repetition of the means before mentioned, to get into clear water again—warping and boring with canvas set, as the circumstances of our position demanded. We had, at the same time, the mortification to witness a lane of water, extending from the large piece of ice we had so hastily abandoned the previous evening, far in a north-east direction, and apparently beyond the termination of the land on the eastern side of the Strait; but to reach it then was impossible, as a couple of miles of ice intervened. It continued moving about in a most wonderful manner for the remainder of the day, in various detached floes and masses, requiring the utmost vigilance to prevent our being again beset.

Although we had for some time before noon, been standing to the southward, and had been beset and rendered utterly inactive so often, yet we had been

for the most part drifting slowly to the northward, our position at noon having been found by observation to be in lat. 73° 6′ N., long. 117° 10′ W.—we had, however, been some miles further to the north; a higher position than was ever subsequently attained in this Strait. We were thus only thirty-five miles distant from the northern limit of Banks' Land, and it was tantalizing to think, after a voyage of so many thousand miles, and having overcome so many of the perils of ice navigation, that this short distance could not be accomplished. The ship was hove to for the night, as it served no good purpose to keep under weigh, exhausting the strength of the men, when there was nothing whatever to be gained by it, and darkness and loose floating ice, rendered the navigation no less difficult than dangerous.

Several Ducks, Gulls and Seals were observed, five of the former were shot; they were ever welcome, as they conveyed the pleasing evidence that winter had not yet set in, although the appearance of the weather, and the steadily decreasing temperature, truly told us of its advent.

CHAPTER IX.

Young Ice—Its Formation—Our Position—Barrow's Strait—Opinions respecting the Existence of a Passage—Drifting in the Pack—Incidents and Dangers—Equinoctial Gales—Critical Position of the Ship—Increasing Dangers—Preparations to meet Casualties—Aspect of Ice—Pressure—Continue Drifting—Arrangements for abandoning Ship—Assault of the Ice—Halsers and Life-buoy carried away—Abatement of the Gale—Change of Weather—Temperature—Position—Collisions—Approach Princess Royal Islands—Critical Position—Escape—Conclusions arrived at—Last Day of September—Preparations for Wintering—Parhelion and Parasellenæ—Birds—Early Days of October and Occupation—Ice in Motion—Heavy Pressure—Alteration in Appearance of Ice—Experiments with Gunpowder in Blasting—Aurora Borealis—Completion of Winter Preparations—Daily Routine and Exercise—Ice in Motion—Its Aspect—Reflections—Weather.

EARLY on the morning of the 17th of September, young ice having formed around us during the previous night, had, from the effects of the pressure of heavy floes, and low temperature become so thickened, that our progress was arrested—the light

westerly breeze not being sufficient to propel us through it. Towards noon, however, we were released, when an effort was made to reach a small space of open water to the south-west; we advanced a little towards the attainment of our object after great exertions, much thwarted by the rapid formation of young ice, which soon entirely arrested our progress; and we secured the ship to the heaviest piece within reach.

The formation of young ice is always a serious obstacle to Arctic navigation. I observed that it first appears in the form of minute flocculi, which gradually become larger, more opaque and globular, then coalesce, but possess for some time their spherical outline, until pressure identifies them more closely with each other, when a thin film becomes formed on the surface of the water, imparting to it an oily appearance, to which the name of "Pancake ice" has been given. This becomes broken up by the slightest contact with heavier ice; and the fragments sliding under, or over each other, acquire greater thickness. From frequent repetition of the same process, and the continuance of low temperature, they soon acquire strength and thickness, become united with others, and form a frozen surface of greater or less extent, through which a ship cannot possibly penetrate, when thus surrounded. These floes undergo the same liability of being broken up, by the pressure of heavier masses, the fragments become thrown up, and

cemented to each other forming packed ice, which may go on increasing, together with the accumulation of snow, for periods of indefinite duration, and ultimately present that terrific, indeed impenetrable barrier to navigation so frequent in those seas. Wind is the great antagonistic agent to the formation of young ice; but when this is absent, and the temperature falls, it is surprising to see with what rapidity congelation takes place.

Our position had not materially altered. On the 18th we drifted a little to the north-east, and the morning being very clear, at an early hour the ice mate was sent aloft to report on the relative state of the ice and land—his field of vision embracing an extent of, at least, twenty miles. No land could be seen directly to the northward in the line of the Strait; but that on the western side bore away to the north-west, and that on the opposite side to the north-east. This was, indeed, very gratifying intelligence—the termination of the land being seen on either side, and none directly ahead, there could exist no doubt that Barrow's Strait lay before us.

We were, however, afraid to indulge too confidently in anticipations respecting the Passage. Some thought it possible, that the northern limit of Banks' Land might not have been accurately laid down, even by such an observer as its great discoverer (the late Sir Edward Parry) from the deceptive appearance which the atmosphere might then have presented, and under

circumstances when human judgment is so liable to err. Others, and myself amongst the number, strongly maintained that the North-West Passage was then discovered, and that it only remained for us to make it in the ship.

The pressure of the ice about us rendered it necessary to unship the rudder, with little apparent probability of ever using it again; and we still continued to be drifted slowly in the desired direction. For the next few days, nothing of consequence occurred to enliven the aspect of affairs. We hoped for anything that would drive us to the northward, at whatever risk—even a south-west gale, critical as was our position, was earnestly desired, as the season of navigation had from appearances evidently come to a close—the temperature fell to 4°—and there was little probability of our being again released from the grasp of the ice. We were slowly drifting alternately north and south, but the latter preponderated, having lost seven miles since the 18th—the soundings varied from 50 to 66 fathoms. No water was seen until the 21st, when the wind having freshened, a narrow lane was observed extending along that western shore (which we ought not to have left) to the northward as far as the eye could reach; but no effort of ours could then move the ship. On the 23rd, we had again sighted the islands (subsequently called Princess Royal)—a strong proof of our being drifted to the southward, and now immediately fixed in the pack; which was so close that

we were able to walk over its rugged surface. There was marked evidence of some powerful force acting on it from the northward. It had been recently split and hove up in several places, as it met with obstruction to its progress from the islands to the south. Our position thus drifting in the pack was an extremely critical one, and we were unable to avert any calamity to which we might be exposed. The ship powerfully strengthened as she was, could but feebly resist the enormous pressure that might be brought to bear against her. To guard against any sudden casuality, it was considered judicious to get twelve months provisions on deck, to be available in the event of the ship being nipped, or otherwise seriously damaged.

A flock of Ducks were seen, and the usual cheerless character of the weather was enlivened by a very brilliant sunset. On the 24th, the wind changed into the north-west, and blowing fresh, became intensely cold: and the barometer steadily falling foretold the approach of the Equinoctial gales.

As the day advanced our position became more hazardous. Still drifting with rapidity, we were carried between the island and the western shore, with every probability of utter destruction to the ship. In a small indentation of the coast line, a heavy floe of grounded ice was observed, towards which we were steadily borne. In the event of our becoming fixed between this and the one to which we were

attached, with the same overwhelming pressure setting down from the northward, the 'Investigator' must have been inevitably crushed to pieces. Should we succeed in keeping clear of this floe, we had the prospect before us of being driven on shore with the loss of the ship, or of being carried out of the Strait fixed as we were in the pack, with all the horrors and dangers of such a position. Our only hope of escaping either danger, depended on the probability that the floe to which we were attached would ground, and remain entire before we came into contact with that nearer the shore; or that the wind would change, and thereby arrest the progress of the pack that was steadily setting down.

About 9 A.M., from the continuance of the heavy pressure, the integrity of the floe to which we were secured, and on which so much depended, became seriously threatened. As soon, however, as its most distant edge encountered resistance, a prolonged, heavy, grating sound could be heard; and next moment a fissure, in it extending to the ship's side, presented itself, which gradually opened out a few feet, and for a time relieved the ship. Our situation was then, indeed, one of extreme danger, and our safety solely depended on the remaining part of our floe remaining entire. We were still drifting slowly and helplessly towards shipwreck, when, through the mercy and goodness of Providence, about 10 P.M. the broken mass grounded in 10 fathoms

water; our drifting was arrested, and partial safety, as we thought, secured for a time. So long as the floe kept intact, and our cables held, we might be able to maintain our position.

We were thus helplessly borne along to what appeared our certain, almost immediate destruction; the immense sea of ice in motion, carrying our vessel as it were, in its grasp, with huge masses borne along, tumbling and toppling over each other as they met with resistance, or overborne by some more powerful field sweeping everything before it, and with an ominous sound, grinding and crushing against the sides of our beleaguered ship, causing every timber to vibrate, as a proof of its irresistible force. The prospect was, indeed, appalling to the boldest of us. Evening closed in, cold and squally, carrying the snow drift in dense clouds over the barren, desolate land we were approaching, and to which we looked a sour refuge under a contingency that appeared inevitable. After a while, the pale light of a waning moon partially revealed our position, and dispelled much of the gloom upon our minds which the darkness had created.

Until midnight, the ice could be both seen and heard drifting to the southward, between our position and the island, as the sound of conflict amongst its masses was borne on the blast, enhancing our sense of gratitude for partial security. Part of the provisions, tent equipage, housing, skins, blankets, clothing,

sledges, fire-arms, and such other things as were likely to be useful, had been got on deck, and we were told off to our respective boats. On the completion of these arrangements, the men were ordered below, to select a change of warm clothing, and a pair of cloth or snow boots, and were refreshed in the usual manner, after the great exertion they had previously undergone. Never did a body of men view their impending fate with more composure and firmness, or exert themselves in a greater degree in the performance of their duties; indeed for as danger or difficulties increased, in an equal degree did their zeal, cheerfulness and good conduct excite our admiration.

On the morning of the 25th, there was no alteration in our position from midnight, as the floe remained steadily aground, but we were severely pressed by the ice as it drifted past us during the night. Daylight revealed to view an immense field of heavy floe ice, lying between us and the islands, extending north and south as far as the eye could reach; its surface rugged and unequal from its high, hummocky character. Some distance to the northward it was rendered wonderfully striking, by the appearance presented by two lines of lofty hummocks, extending diagonally for a short distance, very much resembling land, being dark in colour, with streaks and patches of snow interspersed over its surface, as on the neighbouring coast. This was evidently the great floe which had been for days in motion,

driving us before it—had doubtless come out of Barrow's Strait. The heavy loose ice which it now crumbled up and packed together, was sent against us with increasing pressure, conveying very unpleasant evidence of its colossal power, and great antiquity, as it must have been the growth of centuries. About 5 A.M. owing to this increasing pressure, the ship complained severely, and our proximity to the edge of the great floe, the distance not exceeding thirty yards, with heavy ice broken into fragmentary masses intervening, our great hope of safety still remained in the steadfast little floe, to which we tenaciously clung, and the bond of connection was still farther cemented by the strongest ties our resources could effect. We laid out a stream chain, one nine inch, two six inch and two five inch halsers, with anchors attached to each; more we could not do, and it only remained for us to await the result with resignation.

Our soundings, up to noon, remained unaltered, when they shoaled to 9½ fathoms. We had observed a short time before, that the large floe was setting to the north-east, diametrically opposite to its former course, and against the wind, which still blew, with the force of a gale at the temperature of zero, from the same quarter; but about 2 P.M. it was again observed to pursue a south-easterly course as before, no doubt from tidal influence, and thus continued for the remainder of the day at the rate of two miles per hour. Towards evening, its northern end was abreast of the

ship, and the ice packed into lofty mounds rose everywhere about us. The appearance of those ponderous masses thrown up and piled thus together, forcibly told us what our fate might be. Our position was evidently becoming even more critical, as we found ourselves drifting to the southward, nearing the shore until we had shoaled our water to eight fathoms, about 10 P.M., when our progress was fortunately arrested—the floe having brought up against grounded ice. Thus closed a day of the same wild, gloomy character as the preceding, in perfect keeping with our prospects. Throughout the night we were again drifted to the southward, and at 5 A.M. on the 26th, we came in contact with a large floe piece, which striking the ship on the starboard quarter, swung her completely round, carried away one five inch halser, and started all the anchors, six in number, off the floe.

The crash and heavy grating noise fell on the ear with anything but an agreeable sound. I was awoke by the vibration of the timbers, as if the ice was coming through them, the great amount of pressure having come on the quarter close to my cabin. As may be supposed, I at once proceeded to satisfy myself of the exact state of affairs on deck; but happily no other casualty had occurred. No time was lost in remedying the disaster, and we were again secured to the same floe, with a nine and six inch halser. We were then drifting with it, a repetition of the previous

precautions therefore became unnecessary, as we had not the same amount of pressure to resist. Soon after this occurrence, another large piece of ice struck the rudder head, which was swung for the sake of security, about six feet above the water line across the ship's stern, and carried away the life-buoy. Some idea may be formed of the stupendous nature of the ice that assailed us, from the fact of its striking the rudder head at such an elevation—a repetition of which was guarded against by hoisting it still higher.

We continued throughout the day steadily drifting to the southward. At evening the islands bore N.N.E. four miles distant, and the wind abating, the ice opened as the pressure diminished, and a few narrow lines of water could be seen here and there. This tended very materially to ease its embrace on the ship, and we had got more into the centre of the Strait, sounding in from 34 to 62 fathoms water. We lost sight of the islands as darkness set in. The night was a restless and anxious one to all, from the quantity of heavy ice which frequently struck the vessel, pressing and grinding against her trembling side, but fortunately with no serious consequence.

Towards morning, on the 27th, the wind had fallen very light, and was succeeded by a calm, when the islands which we supposed had been seen the evening before for the last time, were again visible, as we were then drifting slowly to the north-east. The tide

having arrested our southerly progress during the night, was again bearing us in the direction whither we had come, but towards the opposite side of the Strait. Still even this change was a subject for congratulation. Several small spaces of open water having opened around us, afforded room for the ice masses coming up from the southward to drift more rapidly, grinding against us in their course; that, to which we were attached, necessarily moving more slowly from its greater magnitude; and thus we continued borne along at the mercy of the elements. Although the temperature remainded as low, the cold was not so severely felt as on the few previous days, owing to the absence of wind; but everything wore a most wintry appearance and the moisture of the atmosphere rapidly freezing as it fell, gave a coating of snow-white frost to the yards, rigging, and every part of the ship. We enjoyed much more quietude than we had known for some time, from the continuance of the calm. There was not the same imminent danger to be apprehended, and we were pleased to know that we were slowly recovering our lost ground to the north. As night fell, some heavy floes came into dangerous proximity under our stern—their progress to the eastward having become arrested in some way or other, which would render our position critical were they to close.

A strong south-westerly wind having set in early on the 28th, with snow, had brought us considerably

nearer to the islands, and bore us steadily onward to the north-east. We were subject to heavy pressure and severe knocks from time to time, as the floes passed on their course, wheeling the ship to and fro, wherever a space of open water existed; and, when this was absent, we had to sustain the pressure of the collision. Towards evening we had approached much too near the islands to be agreeable, as their stern, precipitous outline frowned ominously on us; and apprehensions were entertained that, if still borne on the same course, we might come in contact; but when abreast of them—the ice having become packed into closer space, with the wind pressing on it from the southward—we, together with our devoted little floe, were made to describe a circle, and we were borne along for some distance stern foremost. The ice forcing a passage for itself to the northward carried us with it, and removed the imminence of the danger which threatened us—unless the wind should change, and again drive us to our original position. We had thus completed a circle round these remarkable islands; and it was by no means improbable, from the helplessness of our situation, that this might be repeated. Throughout the 29th, we continued to be drifted steadily to the northward, with a repetition of all the hazards and incidents, but more slowly than before. There was every appearance of the pack becoming stationary; and no one doubted that our winter must be spent in its grasp, as we considered the Polar Sea had finally closed against any further attempts at

navigation this season. Our long-cherished wish of reaching Barrow's Strait was, therefore, relinquished.

The last day of the eventful month of September came, and was one of those fine, cold, and clear Arctic days which we had occasionally experienced. The temperature fell below zero for the first time; and we commenced dismantling the ship. The top-gallant masts were sent down, sails unbent, and other preparations made for housing in, and resisting the rigour of the cold then rapidly increasing.

The calm stillness of the atmosphere afforded us a magnificent "Parhelion" from which a zone of pale yellow light encircled the heavens, contrasting beautifully with the azure blue and the softened mixed tints of the sky, that imparted much splendour to the general effect of this lovely phenomenon—a source of considerable awe and terror to the very early navigators of the Polar Sea. A faint Parasellena was observed the previous evening, but was not remarkable for its beauty. Nearly the last of the feathery tribe was also seen—a solitary Ptarmigan wending its way to the south. Several Seals made their appearance wherever there was a little space of water to be found, and the stillness of the day was frequently interrupted by the hoarse croaking of a couple of Ravens which kept flying ominously about us—the sound falling mournfully on the ear.

Nothing of unusual interest or excitement occurred for the few first days of October; the ice was still

moving a little, pressure occasionally experienced, and the wind, and general character of the weather alternating from time to time. As the ice was not sufficiently firm to admit of our going for any distance from the ship, a few of us (the officers) occupied ourselves in excavating one of the large hummocks of ice on our devoted floe, to perpetuate our grateful remembrance of mutual attachment. I can give no better idea of its heavy character than by stating, that this mass was 10 feet high, and 20 feet long, of an elliptical form. In it a beautiful grotto was formed, its interior presenting an appearance of extreme beauty, from its ultramarine, semi-transparent structure. Narrow channels of water were occasionally seen, and the distant sound of ice in motion was, at times, distinctly audible. On the morning of the 4th, heavy pressure came again on the ship, which continued with more or less force throughout the day.

At 8 P.M., all being still and silent about the ship, we had again evidence of its being in motion; but the suddenness and force of the movement were far different. The whole mass of ice to the northward of our position appeared as if under the influence of some wonderful convulsion of nature, as it came with alarming force against the ship's side, making her timbers most sensibly complain. All hands were speedily on deck, without requiring the call of the boatswain; and they were afforded ocular demonstration of the perilous situation in which we

were again placed, and the danger there existed of being momentarily nipped, as the ice bore down heavily and steadily on us, and pressed us against the floe which had hitherto borne us in safety through such an adventurous course. While it resisted, the ship was elevated nearly two feet out of water, inclining about fifteen degrees to that side from which the pressure came. Had she not risen in this way, she would to a certainty have been nipped. This ceased to be probable from her altered position, but had the force continued, it must have thrown her broadside on the ice—fortunately it ceased within the space of fifteen minutes from its commencement. It was wonderful to view the heavy masses as they were thrown up in large fragmentary pieces, piled on each other, so as to overtop the taffrail, and touch the quarter boats suspended from the davits; and direful was the sound to which we listened, enveloped as we then were by the darkness of night. Some of us had knapsacks ready for a start, as it lay not in our power to do aught that could avert the danger; and all hands stood breathless on deck, until it again became suddenly silent. The great alteration in the appearance of the ice around us, from its crushed and broken up state, left sufficient evidence of the tremendous power to which we were only for a short time exposed, and so mercifully rescued. We remained, however, in an anxious uncomfortable state throughout the night, not knowing the

moment when our safety, and that of our old ship might not be again as suddenly imperilled. We dared not go to rest, but merely lay down with our clothes on, and knapsacks under our heads, ready to start on the first sound of alarm. During the middle watch, we had a repetition of the pressure, but less heavy than before; the creaking and grinding against the ship still told us of its being in motion; it had the effect, however, by assailing the ship from the opposite side of placing her again nearly upright. On the morning of the 5th, we found we had been carried to the southward, and had approached nearer the islands, and the eastern shore—a lane of water had also appeared in the direction of the former, in which a few seals were sporting.

Several experiments were made to test the power and efficacy of gunpowder in blasting ice, under the immediate direction of Mr. Wynniatt, (mate), who had been instructed in its use prior to our leaving England, and under whose superintendence all our subsequent operations with this powerful agent were successfully and zealously conducted. The agency of gunpowder in blasting ice having been hitherto unknown, and untried in ice navigation, much interest was consequently attached to the few experiments we then made on a small scale. These were attended with success, and afforded us the pleasing evidence of the powerful auxiliary we had at command for future operations.

As we considered it by no means improbable from our position in the centre of the pack, that the ship might sooner or later be thrown on the floe from the pressure to which she was subject, it was resolved to give her as smooth a bed as possible; accordingly several small hummocks, alongside, were speedily and successfully removed by blasting. The pressure still continuing from time to time, several large pieces of ice got under the ship's stern, which elevated it considerably, throwing her over also on her port side. Numerous rents and fissures were everywhere discernible—evidence of the power still at work.

In the evening we were favoured with a most brilliant Aurora Borealis, extending from west to east, and to the southward of our position. Its broad and irregular undulating streaks of golden yellow light, splendid and evanescent as they were—at one moment, subtilely flitting to and fro with electric rapidity at another, forming huge masses of electric light, from which streams appeared as if falling to the earth in a shower—most beautifully illuminated the heavens, and cast a brightness over the trackless wastes of ice and snow that surrounded us. As the weather was at this time generally cold and calm, the sunset was for the most part very beautiful. The prismatic tints of his reflected brilliance, diffused in a line of softened and subdued splendour on the western horizon, imparted an appearance of extreme loveliness to a scene, which darkness overshadowed

too soon. Subsequently we were compensated by a grand display of the beauties of the Aurora.

Throughout the entire of the 6th, we were subject to a repetition of the same pressure, and were kept in the same degree of painful suspense, from the continued movements of the pack, influenced as they were by the effects of wind and tide, which still bore us to and fro; but we were evidently shortening the distance between us and the islands.

On the 7th, all the work preparatory to housing in having been completed, the routine of labour and exercise for the ship's company throughout the winter was commenced. The former was of a very light nature and merely consisted of what pertained to the internal economy of the ship; the latter ensured to each man, at least, six hours exercise out of the twenty-four, in the open air—a system which was attended with admirable effects, and contributed largely to the maintenance of health, kept the mind in a state of buoyancy and cheerful excitement, and enabled us successfully to resist the depressing influence of an Arctic winter.

Early on the morning of the 8th, a huge mass struck the ship on the quarter, and swung her round, leaving a space between her and the floe of about four feet; but before an anchor could be laid out and hove on, to bring her into the former position, the ice that was blocked about her stern and under the keel, at once, rose to the surface, and occupied the

vacant space, which, together with the rapidity of the freezing, prevented us from regaining our position. There was, at the same time, a general movement in the pack; this commenced with a low rumbling noise, resembling the distant roar of the sea, until it reached the ship, when we were amazed at seeing immense masses slowly and gradually raised to different degrees of elevation, others crumbled to pieces, or packed on each other, and the same force slowly but surely approaching ourselves. Our astonishment rapidly changed into intense anxiety for our own safety.

On the 9th, there was no material difference in our position—the motion having apparently ceased with the cessation of the spring tides; and we enjoyed a day of comparative comfort. The weather continued beautifully clear and serene, with an occasional light air from the westward; the temperature generally varying from five to six degrees below zero; which promised well for a journey contemplated, next day, to the neighbouring land.

CHAPTER X.

Appearance of Weather—Departure from the Ship—Journey across the Ice—Reach Prince Albert's Land—Take formal possession of it in the Queen's Name—Ascend the Mountain—Incidents—Appearance of Land and Ice—Our View from its Summit—Existence of a North-West Passage established—Descent—Refreshment—Journey across the Ice arrested—Critical Position—A Night's Adventure—Incidents—Arrival of Relief—Return on Board—Halkett's Boats—Results of the Day—Celebration of taking possessiou of Prince Albert's Land—Ship stationary and Position—Preparations for a Journey to the Northward—Visit Princess Royal Islands and take possession—Appearance of Ice grounded—Geological Character of Islands.

THE morning of the 10th of October was ushered in with scarcely a breath of air, and with the temperature 10° below zero; nevertheless, there was a mildness in the atmosphere, a stillness and serenity all around—the marked peculiarities of a fine Arctic day—which tended to impart a degree of grandeur to the stern face nature here presents, and which, under less favourable circumstances is ever wild and dreary. It was then

quite a calm; but the barometer having fallen a little, and a low, dark line at the same time forming on the southern horizon, led us to believe that the wind might soon be expected from that quarter.

Under these circumstances, and the ice not having been observed in motion for the previous forty-eight hours, at 8.30 A.M. Captain M'Clure, Lieutenant Cresswell and myself, accompanied by the interpreter and four men, started from the ship, some of us carrying guns, others boarding pikes; the men with the apparatus for cooking their dinner, pick-axe, shovel, flagstaff, &c.—all necessary implements for the service we were going on. We shaped a direct course for the eastern shore opposite to the ship, where the land appeared more elevated and rugged, than the gradually sloping hills on either side, and from which the ascent of the mountain might be commenced in nearly a straight line. Our course lay over hummocky and packed ice, with occasional intervening fields formed within the few previous hours, flat and even as a board, with here and there marginal lines or boundaries of a few inches high—the effects of pressure from without, cracking the young floe, and throwing up these little boundaries; thus dividing it into distinct patches or fields. The appearance presented by the little tufts of hoar frost strewn over the surface, was very beautiful; some crystallized in the form of spicula, and others larger, of a stellated form, closely resembling small feathers, from their well-

marked pennated structure. Far surpassing all in brilliancy and splendour, was their power of decomposing the solar ray, and presenting the most rich and gorgeous display of the prismatic colours that I have ever beheld; forming a carpet, as it were, studded with gems of the first water, whose dazzling brilliancy was absolutely exhausting to the vision.

Our progress was arrested by a stream of young ice, which obliged us to make a little *détour* to the northward; our pikes proving of much service in testing its power of bearing; and thus we pioneered the way, until within about one mile of the shore. Here we discovered that the field on which we were walking was in rapid motion, and passed along the in shore grounded floe, in such close contact as to throw up some heavy pieces, packing them together. As it was our object to get on the grounded floe, and so on to the shore, feeling satisfied that the motion was entirely owing to the tides, I approached the edge of some young ice to test its capability of bearing us with my pike, when it gave way under me, and I fell, but was quickly picked up by some of our party, with only partial immersion. A little further on we found it stronger, and after the exercise of some adroitness and activity in our movements, managed to clamber up the sides of the inshore floe, when the ice was still in process of packing. It afforded us no very steady footing, but ultimately we succeeded in passing this formidable outwork to the shore, on

which it had been forced up to the base of the cliffs we were approaching, from the effects of the late movements in the pack. We computed the distance from the ship to be about five miles. This part of the coast presented a bolder appearance than elsewhere; its almost vertical escarpment was interrupted in several places by deep gorges, and up the precipitous side of one we ascended; the looseness of its sandy soil enabling us to do so with comparative ease. On attaining the summit of this cliff, about 150 feet high, we assembled our little party and took formal possession of the land in the name of our most gracious Sovereign; bestowed on it that of her amiable Consort—planted the ensign of St. George, and, with three hearty cheers, completed the ceremony by drinking health and long life to our beloved Queen and His Royal Highness Prince Albert.

We then prepared to ascend the high land, leaving the four men to erect a mound and land mark, and prepare their dinner during our absence. The general aspect partook of the usual undulating, hillocky character, with the same unvarying sterility and barrenness. Ranges of hills rose above each other, intersected throughout by deep gorges and ravines; the soil sandy, its surface covered with stones and shingle, with a few blades of withered grass scattered here and there, wherever a little sand had accumulated; but never was Nature more sparing of her gifts, than appeared in this scanty herbage.

The ascent was gradual, in the ravines, through which we passed; snow had accumulated in great quantity, into which we sunk deeply, rendering it fatiguing, from the efforts required to extricate ourselves; but when it had become consolidated and frozen elsewhere, the walking was pleasant. We steadily continued our advance until the summit was attained, about 1 P.M., and having been for so long a time without any exercise, (except what the ship afforded) we felt rather tired on reaching the top, after this wearisome journey. We then found ourselves above the range of vision from below; the ground flat, with the same uniform, pebbly covering as elsewhere; and the height from the sea level not less than 1,500 feet. The land, as far as we could observe, was of the same uneven, hilly character, with numerous lakes interspersed about the base of the hills; the general features, and open character of the country were pleasing, if such a term can be applied to barren lands. They appeared to be seen then to greater advantage, with their partial snowy garb, than when the nakedness of the land should be exposed by its absence.

Our view to the northward, however, was rather more cheering—notwithstanding the deceptive appearance ever caused by distance in Arctic regions, when the atmosphere is highly refractive, and where ice and land are often so intimately blended together, that it is often impossible to distinguish one from the

other. We could clearly trace the termination of the western land, or that of Banks', to a headland or cape of considerable elevation, while that on the eastern side trended away to the north-east, with a clear, undoubted field of packed ice, intervening—continuous with the Strait of Prince of Wales, in which the ship then was. Everything, therefore, was fully confirmatory of the opinions previously formed, *and no doubt could remain as to the existence of a Passage.* From the summit of that hill, I felt convinced we were looking on the ice-packed Strait of Barrow, that the highway to England from ocean to ocean lay before us, and that we had incontrovertibly established the existence of a "NORTH-WEST PASSAGE."

As the temperature did not admit of our remaining long at rest, we commenced the descent, delighted beyond measure at the result of our observations; and, as the luncheon carried in an outside pocket had become so hard frozen that we could not eat it, there was no unnecessary delay. The descent was much less fatiguing, and more rapidly performed than the ascent, and we had occasional evidence that the land was not destitute of animal life, barren as it was in vegetable, from the numerous tracks of Foxes, Hares, Reindeer, Ptarmigan. A small orifice in the snow, indicated the burrow of the pretty little Lemming (*Mus Hudsonius*) in those inhospitable wilds, and in a deep gorge close to the beach a zigzag bearpath was observed.

At 3 P.M. we rejoined the men who received with satisfaction, equal to our own, the result of our visit; they had completed the erection of the mound in the centre of which a pole was placed, supported by guys, for a landmark. We hastily refreshed ourselves with a little water made from melted snow; the men were unable to cook their dinner, for on opening the tin of preserved meat, it was so hard and frozen, that it could not be pierced with a boarding pike, and they had not spirits sufficient to thaw it; they were consequently much in the same position as ourselves. At 3.30, having taken a hasty survey of the state of the ice, and no water being discernible, we commenced retracing our path. We reached the beach, crossed the floe for about a mile, with the usual amount of difficulty, anxious to reach the termination of this outwork, and tread once more those level fields of ice we had passed over with so much pleasure in the morning. But, what was our consternation, on reaching the outline of this packed barrier, to behold our further progress towards the ship arrested by a channel of open water, about twenty yards broad, rapidly increasing, and extending along the floe as far as we could see. Our first idea was to detach a piece of ice sufficiently large to enable us to paddle across one or more at a time; but in this we failed, as the only piece we could obtain was quite unfitted for that purpose.

We looked to the north, but found that nothing

could be done in that quarter. To the southward matters appeared more favourable; the channel had assumed a tortuous course, conveying to us the idea of its having become narrower, and perhaps closing with the floe might enable us to effect a passage. We accordingly wended our way to the southward, as near to the water's edge as we could go, over heavily-packed, rugged ice—our eyes eagerly directed to the line of this fatiguing march—and the frequency of our falls from time to time by no means adding to our comfort. We then advanced for the space of a couple of miles, and found the appearance presented by the ice, from where we had first viewed it, utterly deceptive; the lane of water grew wider as we advanced, there was no more propitious aspect in its state further to the southward, and we had then got abreast of the islands. We accordingly halted on a large elevated piece of ice. Previous to approaching it, we had crossed the recent track of a bear, and expected to encounter him at every turn of our progress, but were disappointed. We assembled in a body on the top of this floe, endeavouring to attract attention from the ship, then some five or six miles distant, and fired several rounds of musketry in the hope of the flash being seen—it was then becoming rather dark, and our situation far from enviable. The sun had disappeared, the clouds looked dark and lowering, a breeze was gradually springing up from the south, our clothing was light, we had no provisions, nor the

slightest covering to protect us against a temperature of 15° below zero, much fatigued and exhausted from our long march and want of food; and, under these circumstances, there existed every probability of our passing the night on the ice. Having about a gill of spirits of wine left, and as thirst was urgent amongst all, we melted a little ice, and were each afforded a mouthful of water, which proved extremely refreshing. As the cold had become severely felt, from the lightness of our clothing, we could not remain at rest more than a few minutes at a time, owing to the rapid abstraction of animal heat, and were consequently obliged to keep in constant motion. We then concluded that in the probability of our departure from the shore having been observed from the ship, and as we did not get on board at the time, when we might be expected, in the event of a party being sent out to our relief, they would doubtless be sent towards that point of land where we had been last seen, and where the land mark was erected. We, therefore, retraced our steps over the rugged, slippery course, which it had cost us so much labour to cross but a short time before. It had then become quite dark, and as we were unable to distinguish the unevenness and irregularities of the ice over which we walked, or rather clambered, we were falling incessantly. We appeared to have lost due power over the limbs, from the effects of cold and exhaustion—the alteration in the ice, and our intense thirst, affording ample

evidence of both. We had advanced about a mile, our eyes anxiously directed towards the ship, when we halted to fire our guns, in the hope of receiving some token of observation; but in vain. Again we started—a light was seen hoisted at the mast-head of the ship, but this was nothing more than what might have been expected to point out her position, and did not allow us to hope for any immediate succour. With the increasing darkness, the appearance of the weather had become more dreary and wilder than before—thus cold, hungry, and thirsty, without covering, there was increasing probability of our spending the night on the floe, and as our small stock of ammunition was well nigh exhausted, the chances of our being able to attract a party to our position were likewise diminishing. Rockets were seen fired from the ship, and a gun at intervals; but like the light at the mast-head, they afforded us no other comfort than the knowledge of its being done to direct our homeward course.

Once more we halted, and fired a few shots, without receiving any recognition, and again pursued our way over the rugged and slippery hummocks, in search of a large piece of ice with a good depth of snow around it, under the shelter of which we might pass the night. We had given up hope of receiving any relief, or of being found by a searching party from the ship until the morning; and having fired our last charge of ammunition, our entire strength for attack or

defence, if we met with Bears, which we knew were prowling about, lay in boarding-pikes.

We were then in search of our resting place, when, to the inexpressible delight of all, we saw the flash, and heard the report of a musket, apparently coming in our direction. We immediately halted, raised a loud cheer, repeated it again and again, and on the third occasion, to our great joy, it was responded to. By cheering frequently, we directed the party towards us, and had the pleasure of knowing that relief was at hand, as we presently saw dark figures on the opposite side of the channel, coming along its margin towards us, and soon communicated by words with Mr. Court, Second Master, and a party of four men across the water.

Unhappily they had come unprovided with aught that could give us relief, although they had been dispatched from the ship at six o'clock, to render assistance, lest any casualty had befallen us. Our situation, therefore, was not much improved, as they did not consider that water had arrested our progress, and the only relief they could afford us, was that of their individual prowess, which, under the circumstances, was quite unavailable. This officer was directed to return to the ship immediately with his party, and rejoin us with all despatch, with one of Halkett's portable boats, all the men that could be spared from the ship, and a supply of provisions for immediate use. He was, likewise, directed to fire a

blue light and rocket on reaching the ship, and two of each when he left on his return to us.

We then felt satisfied that we should reach the ship about daylight, and our friends having left us after eight o'clock, we calculated on their return, at least, at midnight. Our spirits rose with a speedy prospect of relief, and we again put ourselves in motion to resist the intensity of the cold; several of us having already been frost-bitten. We had no food except a little frozen preserved meat—so hard, that nothing could penetrate it—and on attempting to eat it in this state, the mucous membrane of the mouth was excoriated on touching it. The thirst being intense, we experienced the greatest relief from a mouthful of water. As a last resource, with the aid of a few matches, the wick that had been immersed in the spirits of wine, and some pieces of paper, we contrived to melt as much ice in our little kettle, as afforded to each of us nearly a wine glassful of water—which proved a great luxury, althongh a little brackish. We were once more in motion, clambering over the rough slippery ice to promote warmth and kill time; with falls heavy and frequent, as it was impossible to see our way clearly in the darkness. Time thus wore on, while we still wandered about, occasionally taking a few minutes' rest, with an irresistible desire to sleep, until the cold compelled us to be again in motion. About 10 P.M. a light could be seen approaching us from the opposite side of the water, and soon afterwards the signals we had

directed to be made on the return of the party, were fired in succession from the ship. It appeared to us incredible, that they could, by any possibility, have reached the ship, and returned in so short a space of time; but that it was them, the response to our cheer, the sound of voices, and their presence soon afterwards on the margin of the ice, fully verified. Their early return was thus accounted for: at 7 P.M., an hour after the departure of the first party from the ship, two others had been dispatched in search of us, respectively under charge of Messrs. Wynniatt and Sainsbury (mates). Each had one of Halkett's boats, and were provided with blue lights and rockets, that they might be able to maintain communication by preconcerted signals, having proceeded in opposite directions. It fortunately happened that the party returning to the ship, fell in with that of Mr. Sainsbury, and informed them of our situation; the latter returned at once to the ship for provisions, giving the former, Halkett's boat, to hasten to our assistance, at the same time signalizing to Mr. Wynniatt's party to close, which they speedily did. We then stood on the margin of the ice, almost helpless from the effects of cold, fatigue, and hunger, anxiously awaiting the arrival of the boat, which Messrs Wynniatt and Court dexterously paddled across to our relief. They were heartly welcomed, but we found that they were unprovided with either food or water. No time was lost in ferrying us across two

at a time, and as the young ice was forming rapidly, we had to break it with our pikes to make a channel for the boats. We proceeded in the direction of the ship, as rapidly as our exhausted state would allow, the march harassing to a degree, from our constant falling and tumbling about like drunken men; whom we resembled not only in gait, but likewise in speech. We had not proceeded far, when a signal was made from the ship, that relief was at hand, and when about half way, we had the extreme satisfaction of meeting with the Commissariat, under charge of Mr. Paine, (Paymaster), with an abundant supply of provisions, &c.

We came to a halt, threw ourselves on the ice, hastily partook of some food, and a draught of water, the first thing called for; this, by constant agitation, and by being nearly in contact with the skin, was maintained in the fluid state, and with some stimulants, greatly revived us. We again proceeded onwards. Some of my companions were scattered over the floe, which the relieving party went in search of. We found in the last part of our journey, the great benefit we had derived from the small quantity of food we had eat, and at an improved pace reached the ship at 2.30. A.M. heartily grateful for our deliverance from our critical position. The relieving party did not arrive until later—one or two of the men having become quite exhausted, could not proceed without assistance. Thus terminated a

memorable and eventful day. We had been eighteen hours absent from the ship—walking, I may say, the entire time. The distance exceeded thirty miles, which in consideration of the nature of the ground, was more trying than double the distance over level country; and what with the intense cold of the night, no tents, inadequate clothing, and entire want of food, had we not been happily rescued, there was but too much reason to fear, that morning would have furnished a serious list of casualties.

I cannot close this recital of the events of the day, without expressing the high opinion we entertained of the boats constructed with so much talent and ingenuity by Lieutenant Halkett, Royal Navy. I know nothing better or more portable for lake or river navigation; and to them we were entirely indebted for our safety, as ordinary boats could not have been conveyed across the ice, without sustaining such damage in hasty transit as would have rendered them useless. They are very light and portable, made of India rubber cloth inflated with air; the larger one capable of holding four persons, three comfortably, weighs only forty-six pounds; the smaller intended for only two persons, is of course lighter. Either could, in my opinion, be made equally available in conveying sick or wounded men when properly slung; and could not fail to prove a most useful addition to the equipment of travelling or exploring parties. They might, I think, be still further improved if made in compartments;

for in the event of being injured, the danger of the air escaping, would thereby be obviated—particularly when exposed to such a substance as the sharp spicula of ice. When the men had arrived on board, an extra allowance of provisions and spirits was issued to each, and I need not say how we enjoyed the supper that was prepared for us. The name of 'Mount Adventure' was appropriately bestowed on the high land we had ascended.

The following morning found us much refreshed by sleep, a few additions were made to the sick list, from some of the relieving parties, but they complained of nothing of a serious nature. Our party were well; we had all, however, been more or less frost-bitten on face, feet and fingers; but were not incapacitated from duty —the day was entirely given up to rest.

On the evening of Saturday the 12th, we celebrated the taking possession of Prince Albert's Land, by issuing an extra allowance of provisions and spirits to the men, to drink the health of the Queen and His Royal Highness; and the crew assembled on the lower deck, amused themselves for the remainder of the evening. Events such as these tend to maintain men in good health and high spirits from the cheerful excitement they afford. At this time, we experienced a severe loss in our preserved meat; nearly five hundred pounds of which was considered unfit for use. The weather had been variable for some days, for the most part cold, cloudy and over-

cast, and the ship apparently had moved but little; on the 14th, she was quite stationary, when we found our position to be in lat. 72° 47′ N., long. 117° 35′ W., which were our Winter Quarters, and about two and a half miles to the northward of the Princess Royal Island. The temperature on this day had undergone a wonderful and sudden change, having risen to 24°, with the prevalence of a north easterly wind; from which we concluded that there was still a large expanse of open water to the northward. This change we knew would only be temporary. Although no doubt could possibly be entertained as to the existence of a passage, nevertheless, Captain M'Clure resolved on visiting the extreme of either land, before the great fact should be officially recorded, and the darkness of an Arctic winter should finally set in. The men having been selected and approved of by me, they were told off for this service, and the necessary preparations for the journey to the northward commenced. Several excursions were made to the islands, on one of which a hare and ptarmigan were shot, and numerous fox tracks seen; every trace of animal life being eagerly looked for and watched in these regions.

On the 17th, Captain M'Clure and myself made an excursion to the northward, with a view of tracing out the best course for the travelling party; and the result of our observations was highly favourable as to the state of the ice for travelling. The day having

been beautifully clear and serene, enabled us to see a great distance; these cold, clear days ever imparting an appearance of stillness, loveliness, and increased solitude to these icy regions.

The weather on the 18th of October, although cloudy, indicating a fall of snow, was otherwise sufficiently fine to induce us to visit and take possession of the islands which formed such a prominent feature in our landscape. Accordingly at 9 A.M. Captain M^c^Clure, Mr. Court, myself, with the interpreter, and two men left the ship. Our way lay over heavily packed floe ice, with a few fields of that of recent formation. As we reached the extremity of the northern or lesser island, it was perfectly appalling to witness the magnitude of the ice grounded on it. The shattered appearance of these vast and broken masses conveyed to us a frightful idea of that colossal power which had left such destructive evidence of its action. We reached the larger island, and ascended to its summit, which is about 500 feet high, when we took formal possession in the name of the Queen, bestowing on the group that of Her Royal Highness, the Princess Royal. We had a cairn built around, and, with three cheers, planting a red ensign, we left it floating proudly in the breeze, We had then completed taking possession of all the lands we had discovered, and now form an integral part of the British Empire.

In our ascent to the top of this island, we found traces of its having been visited by Esquimaux at a

former period, although we could discover no wood nor any remains of their hunting implements—the formation of a rude cairn, in the centre of which was some loose earth, and a few well bleached fox and seal bones, left no doubt of its having been one of their store-houses. At the same time we observed, in close proximity, one of their ingenuously constructed fox-traps, entirely composed of stones, placed together in two lines, closed at the top and one end, with a small aperture at the other, sufficient to admit a fox, or other small animal; the bait is suspended in the centre, and on the animal reaching and seizing it, the trap is so constructed that a heavy stone falls on it, which ensures its capture, if not death. These remains had every appearance of antiquity, and we assumed that the Esquimaux had made this a temporary halting place in their passage through the Strait at some remote period.

The smaller and more northerly one, is of very limited extent; being in length about 500 or 600 yards, in breadth 50 yards, its average height about 100 feet, inclining at an angle of about 45 degrees to the eastern shore of the Strait. On close examination it appears formed in irregular steps or ledges, as though, as may be readily imagined, from a large mass of matter in a soft state, slowly but steadily upheaved from the bed of the ocean, and partially falling away while emerging from the surface of the water. The greatest elevation is attained in the centre, where its

western aspect is for a short distance vertical; on either side of which, it inclines at a very abrupt angle to the westward, about 15°, so as to convey the idea, (with the exception of the space I have mentioned) of its being on the principle of an irregular double inclined plane. This little island is rich in fossil remains, chiefly Corallines, (*Encrinites* and *Pentacrinates*); the upper surface is composed of small stones and pebbles, with coralline ledges closely cemented to each other; and the rock beneath, which is composed of granulated, bituminous limestone, emitted an offensive odour when struck or fractured, and in some situations was plentifully studded with garnets. Numerous uni- and bivalve fossils, chiefly species of *Cyathopyllum*, *Turbo*, *Buccinum*, *Orthis*, and *Terebratida* were likewise strewn on the surface, presenting good specimens of calcareous petrifaction.

The second or larger island is situated about half a mile to the southward of the preceding, extending nearly due north and south for the extent of a mile, with a mean breadth of about 600 yards. It is elevated in the centre about 500 feet, from which it gradually decreases, but presenting throughout, except for a small space on its western aspect where it is sloping, a bold and precipitous front, varying in elevation from 80 to 400 feet. The soil, (if such it can be called) is entirely composed of a sandy scoriaceous admixture of small stones and pebbles, with numerous volcanic boulders, embracing granite, gneiss, syenite, green-

stone, fragments of basalt, &c., strewn over the surface—a few scanty tufts of withered moss attest the extent of its fertility during the short season of vegetation.

The southern portion of the island, appears to be one mass of fossiliferous remains of Zoophytes, Corallines, and a few uni- and bivalve shells, similar to those before mentioned. These fossils were found imbedded in dark, bituminous clay or shale, of remarkable hardness in some places, but brittle in others, when there existed a ferruginous admixture of brown Hematite, of which the southern portion of the island is entirely composed. On advancing to the northward and towards the centre of the island, the fossils became less numerous and soon disappeared, a dark laminated clay, of a dry compressed sooty like structure takes their place. Although there was here no distinct coal formation, yet on fracturing some pieces, a narrow carbonaceous line, with the coal lustre, could be discerned, such as it presents in a half burnt state, and this was more marked as the land became more elevated, of course displaying to view a deeper stratum of the earth's crust. The remainder of the outline of this island for a portion of its western, and almost the entire of its eastern aspect, is composed of lime and iron stone, rising vertically, and containing a few fossils, extensively coated with depositions of sulphur and iron in combination, and emitting an offensive odour when fractured. The geological

character of these islands from the specimens obtained, is, therefore, associated with the Carboniferous era of the earth's formation.

Nothing of any consequence occurred for the next few days; and we were gradually becoming initiated into the usual winter's routine. The weather had maintained a pretty favourable character, such as pertains to a closing season; and on the evening of Sunday the 20th, all the travelling preparations were completed for the journey to the northward.

CHAPTER XI.

Departure of the Travelling Party—Passage over Rough Ice—Fatigue Party—Their Route and Return—Accident to Sledge—Despatch a Sledge and Party—A Shooting Party—Five Musk Oxen killed—Measures adopted—Animals brought on Board—Quantity of Meat obtained—Return of Captain M'Clure—Confirmation of the previous Discovery of the North-West Passage—View from Mount Observation—Parry and Richardson—Points Peel and Russell—Homeward Journey—A Night on the Ice—Reception of the Party—Difficulties and Hardships of the Journey—Food consumed—Pemmican and Oatmeal—Housing in—Ventilation and Warming Ship—Early Days of November—Occupations of the Men—Departure of the Sun—Aspect of Winter—Weather—December—A Fox Hunt—The Solstice—Christmas—A Seal—Weather—Last Day of the Year.

On the morning of the 21st of October, all was bustle and excitement on board the 'Investigator'; Captain M'Clure having determined to start on his projected journey to the outlet of the Strait, to verify the fact of our previous discovery. The day did not present a very auspicious appearance, being dull,

cloudy, and overcast, with a light breeze from the south-east, and the temperature 4° below zero. As this was the first travelling party that had left the ship, it excited a great degree of interest amongst us. At an early hour the sledge with provisions and other requisites for seven men for fourteen days was packed in readiness, but as the state of the ice did not admit of its safe transit for a distance of a couple of miles from the ship, the entire strength of the ship's company was employed for carrying the articles separately over this space. Accordingly at 7 A.M. all hands were assembled on the ice, and on the word of command, started towards the north-east; having previously given the travellers three cheers, which was heartily responded to—a custom always followed on the departure or arrival of travellers in the Arctic regions. The party, about fifty in number, each carrying some articles of the equipment, presented a strange and novel appearance as they wended their way over the ice, following the course pointed out by the pioneers, until the rough ice was safely crossed at 8 A.M., when we halted and repacked the sledge. The fatigue party consisting of eight men, with Mr. Wynniatt and myself, then put themselves in harness and advanced; the remainder of the crew greeting us with three cheers, retraced their steps to the ship. Our course for the space of an hour lay over a fine level space of young floe, parallel to and distant about three miles from the eastern shore, after which we came on some

very heavy packed ice, which we could not attempt to pass, but kept away along its edge for the remainder of the journey. When about fifteen miles distant from the ship, it was not considered prudent that we should proceed further; a heavy snow drift coming on, difficulty might be experienced in again finding the ship, and being without a tent or other covering, we were obliged to return.

Captain M'Clure, (who was accompanied by Mr. Court for the purpose of taking observations), and a party of five men, having previously refreshed themselves with a little water and biscuit, then took charge of the sledge — our little band speeding them on their way with three hearty cheers, which they as heartily returned and proceeded on their journey. There was a strange and pleasurable feeling of excitement in this scene—one small group of men cheering on another proceeding upon an enterprising and hazardous service, enveloped, as we then were in a cloud of snow-drift. We turned from each other, and were soon lost to view, but gladly would any one of us have participated in their labour had it been so decreed. Our party requiring some refreshment after their long march, we found that the delay of a few minutes produced such intense cold, with a sharp cutting breeze against us, that we were unable to halt, and were accordingly obliged to eat as we kept moving, each of us having been provided with a day's provisions. We followed the westward

route, and, about 5 A.M., having crossed the recent tracks of several bears and foxes, reached the ship in safety. About two hours after our return, we were all much astonished by the arrival of Mr. Court, and one of the party; from whom we learned that soon after they had left us they met with rough and heavily packed ice, which damaged the sledge. It was repaired; but subsequently became so broken, that they were rendered incapable of making any further advance, and encamped but a short distance from where we had parted with them. Messengers were at once dispatched to the ship with the intelligence, and orders to rejoin the party on the following morning with another sledge, and an additional man; as five were found insufficient for the work. The occurrence of the accident was a source of great regret, as it caused the delay of one day; very valuable at that season of the year.

Early on the following morning, the 22nd, they again started with a new sledge, accompanied by a fatigue party, in charge of Mr. Wynniatt, to rejoin Captain M'Clure. I much regretted that a slight accident which I met with on the previous day's journey, prevented me from accompanying them. They were provided on this occasion with a tent, a day's provisions, and other necessaries, in the probable event of their being unable to return to the ship that evening. As night closed in with a fresh breeze and snow-drift, lights were hoisted and rockets fired at intervals to

guide the travellers to the ship; but they did not make their appearance until the following day towards noon. They informed us, that they reached the Captain's party the previous day about 2 P.M., that, having exchanged sledges and repaired the broken one, the former proceeded on their journey, and they retraced their steps. In consequence of the heavy snow-drift which had set in, they found their way considerably impeded, and ultimately lost the sledge-track of the morning. As the ship was not visible, and could not be reached without risk, the certainty of much labour and probability of casualties, they encamped on the in-shore ice for the night, which they passed as comfortably as circumstances would admit, and next morning had the pleasure of seeing the 'Investigator' distant only about four miles. They returned on board, having suffered only a few frost-bites.

No occurrence of interest took place for the next few days; a party of men were employed in erecting a large cairn as a landmark on the summit of the larger of the Princess Royal Islands. I occupied myself for some days in examining and removing from these islands, specimens of their formation, and I can affirm that geologizing at a temperature from 15 to 20 degrees below zero, is not the most agreeable occupation.

On the 29th, some of our officers went on an excursion to Prince Albert's Land, where they fortunately met with a herd of five musk oxen. These animals

were proceeding southward, and the party having got them in a sort of dell, or ravine, took up a judicious position, and after a considerable expenditure of ammunition all fell but one—the leader of the herd, who had taken the post of honour in front, and received no less than seven balls before he dropped. This was, indeed, no less an unexpected than fortunate occurrence, and much too valuable a prize to be left on the land during the night, a prey to the tender mercies of any hungry animals that might be prowling about. It was accordingly determined that two of the party, Mr. Sainsbury, and the ice-mate, (both of whom had been frost-bitten, the latter very severely), should return to the ship with the intelligence, while the others, (Mr. Paine, the interpreter, and a marine), remained to guard their prize. As driftwood was abundant, they kindled a fire in a sheltered situation.

On receipt of the intelligence, Lieutenant Cresswell and Mr. Piers, (Assistant Sugeon), with three men, a sledge, tent, and provisions, were dispatched to the travellers on shore, to enable them to pass the night, as best they could in that dreary locality.

Early on the 30th, therefore, two fatigue parties in charge of the Boatswain and Carpenter, were dispatched to the bivouac, with additional sledges to assist in the removal of the animals; these we were all extremely anxious to see, as we had heard so much about them.

The morning being cloudy, and overcast with much

snow-drift, the land was quite shut out from view, and the non-appearance of the party after noon was a source of considerable anxiety. Two men were ordered to proceed towards the shore; but not to lose sight of the ship—they were provided with muskets to fire at intervals, in order to attract attention. Fortunately, however, the snow-drift having cleared away as the wind fell light, we were enabled to observe a dark speck at a considerable distance, wending its way through the rough ice, which left no doubt of the approach of the party. They soon arrived with three of the animals; one of the sledges having broken down with the remaining two was left on the ice, but was brought in afterwards.

The larger of the oxen we estimated at about six cwt.; from his apparent antiquity, he was leader of the herd. The graphic account given by the sportsmen of the position assumed by the dam and sire in front for the protection of the others, when brought to bay, was very interesting, and afforded strong proof of their affectionate instinct.

They consisted of three bulls, a cow, and a calf, and afforded us an aggregate weight of 1,269 lbs. of excellent meat, which proved a most welcome addition to our stock of provisions, coming as it did so opportunely at the commencement of winter.

As the weather was daily becoming colder, we were anxiously looking out for the return of the party from the northward, burned blue lights, and threw up

rockets nightly, to point out our position. On the morning of the 31st, about 8 o'clock we were astonished by the arrival of Captain M'Clure, unaccompanied by any of his party. He had separated from them the previous evening, some ten or twelve miles distant from the ship, with a view of getting on board before them, to announce their approach, and send out assistance, as they had suffered much on the journey; but darkness and snow-drift coming on, he lost his way, and with nothing but his travelling clothing on, withstood the rigour of the night.

Although no doubt could be entertained as to the existence of the Passage, from our previous observations, yet we hailed with great gladness, their entire confirmation on the return of Captain M'Clure. As no official announcement of it had been previously made, the present was considered a fit opportunity for doing so, and in these simple words our great Discovery was recorded in the ship's log.

"October 31st, the Captain returned at 8.30. A.M., and at 11.30. A.M., the remainder of the party having, upon the 26th instant, ascertained that the waters we are now in communicate with those of Barrow Strait, the north-eastern limit being in latitude 73° 31′, N. longitude 114° 39′, W. thus establishing the existence of a NORTH-WEST PASSAGE between the Atlantic and Pacific Oceans."

Thus was established the greatest Maritime Discovery of the age, which for three centuries had

baffled the skill, enterprize, and energy of the civilized world. It had been under the guidance and mercy of Providence, achieved by us, when in search of the expedition, that was lost in making the attempt to discover it. We could not therefore but experience an indescribable feeling of pride and pleasure, in knowing that through our single-handed efforts, additional lustre had thus been added to the hitherto auspicious reign of our most Gracious Sovereign, while the maritime greatness and glory of our country were still further elevated above all the nations of the earth; the solution of this great enigma leaving nothing undone to confirm Great Britain's Queen—Empress of the Sea.

On the evening of the 22nd, the exploring party advanced some three or four miles, after which they made daily about seventeen miles in a north-east course; this, making allowance for ice travelling could not be estimated at less than twenty miles, and thus they had advanced seventy-six miles. The general character of the ice was not materially different from that seen on the first day's journey; the young floes were numerous, of great extent, and afforded every ground for hope, that the 'Investigator' would pass through the Strait in safety, in the following year.

On the 26th, the travellers encamped on the extremity of a low point, the north-eastern termination of Banks' Land, from which arose high land, corresponding with the line laid down on the chart, as

seen by Sir E. Parry. They ascended to its summit, estimated at 600 feet high. This afforded them a commanding view of that expansive ice-waste, known as Barrow Strait, but subsequently named Parry Sound, enabling them to see the bold outline of the land on which they stood, trending away to the north-west, and that of the opposite shore to the north-east, with no land intervening between their position and Melville Island, the loom of which they saw. Stupendous floes and heavily packed ice alone occupied that sea, which Parry had successfully navigated thirty years before. Thus fully verifying what we had observed from the top of Mount Adventure, on the 10th of October—conclusive and actual proof now lay before them.

I may here pause to pay a tribute of my admiration to the memory of the late Sir Edward Parry, the great and distinguished Pioneer of Arctic Discovery, who, although not the fortunate discoverer of that Passage he had so long and nobly sought for, it was through his undaunted perseverance, fortitude, energy and judgment exhibited in the great and extensive discoveries made by the successive expeditions under his command, that we were enabled to establish its existence. With our previous knowledge of the relative disposition of land and ice principally as regards Melville Island and Banks' Land, to the north, and Wollaston and Victoria Lands to the south, did we follow the course,

with a degree of confidence we could not otherwise have experienced, that led to our discovery. He it was, also, who first wintered with ships in the Arctic regions, and the admirable and no less original system of routine then adopted, with such excellent results, has been followed by all subsequent expeditions with but little improvement. Nor in connection with this subject can I pass over the name of that able, intrepid traveller, and distinguished philosopher, Sir John Richardson; who as the discoverer of Wollaston and Victoria Lands, the intimate friend and associate of the heroic Franklin in his earlier expeditions, had materially contributed to our success; for it was in the hope of reaching the former land that we stood to the eastward on first discovering Baring Island, which ultimately led us into the Strait of Prince of Wales. Surely then their names, no less from priority than great services, claim a first place in the page of Arctic History.

The hill where our travellers stood, and whence their observations were made, was appropriately named 'Mount Observation,' from the extensive view it afforded; and the expansion of the Strait at its termination was called 'Investigator Sound,' that the name of our ship might be perpetuated in those icy seas, she had hitherto navigated in safety. The points which flanked its entrance were respectively honoured with the names of Lord John Russell, and

the late Sir Robert Peel,* and are destined to remain in perpetual opposition to each other.

On Sunday the 27th, our intrepid party commenced their homeward journey, previously erecting a cairn on the site of their bivouac, in the centre of which was deposited a scroll containing an account of the discovery, the ship's name, position, &c. to guide, if possible, any travellers that might come along the coast, to a depôt of safety and succour. In the evening they encamped in the same position they had occupied on the previous Friday night; after which they took the former sledge track for their guide, and on Tuesday morning found themselves only forty-six miles distant from the ship, which they expected to reach the following night.

Accordingly on Wednesday the 30th, about 2 P.M. when about ten miles distant, Captain M'Clure left them in the hope of reaching the ship to announce their coming, and have prepared for them the first hot meal they would have eaten since their departure. Darkness, however, soon set in with a breeze and snow-drift, and unable to reach the ship, he continued wandering over the ice, suffering from fatigue and hunger for the remainder of the night. At one time he became so exhausted by cold and falling on the

* We were not then aware, nor for some years subsequently, of the death of this lamented and distinguished statesman.

rough ice, that he made a snow bed under the lee of a large hummock, where half sleeping and waking he remained until the atmosphere became clearer and displayed a star, which he immediately took as a guide and put himself once more in motion. When daylight came, he ascertained that he was to the south of the islands on the western shore about four miles from the ship; towards which, faint and weary, he wended his way. The party advanced, until, from similar causes, finding they could not with any degree of certainty make out the position of the ship, they encamped about seven miles from us, and burned several blue lights, which from the distance and the presence of snow-drift, could not be seen by us; but on the arrival of the Captain, a fatigue party under Mr. Wynniatt was at once dispatched to their assistance. At 11.30 we all assembled on the ice, and with three hearty cheers followed by warm congratulations, we welcomed their return.

The circumstances under which this journey was performed were such as well tested the energy, physical powers and capability of endurance of those engaged in it in an extreme degree. Travelling in the Arctic regions at such an advanced period of the year, was previously unknown. It became, however, a matter of vital importance in consideration of the critical position in which we were placed, and in furtherance of the object of the expedition, that our exact situation should be ascertained previous to the ice breaking up in the

coming season, that our spring campaign might be undertaken in accordance with the nature of our position. The low altitude of the sun, causing a daily decrease in temperature, with only about eight hours' daylight, was calculated to increase the difficulties of ice travelling to a degree the experienced only can imagine.

The travellers generally commenced their journey at 7.30, having previously taken what was denominated breakfast—a little cocoa mixed with tepid water, (the fuel, spirits of wine, not being sufficient to boil it). At 1 P.M. they halted, when they took their grog, and about 5.30 encamped. Then came a difficulty, from the fact of the buffalo robes, blanket sleeping bags, and tarpaulin, being so hard and frozen that on pitching the tent they could not be spread, and thawing could be produced only by the entire party laying on, and imparting to them that warmth from their bodies, which they could so badly spare; thus, after passing a few hours in this way, their only protection from the rigour of the cold could be made available. Sleep was disturbed, and rendered but little refreshing, by the cold produced by their half frozen garments, at a temperature varying from seven to fifteen degrees below zero. The small consumption of food during the journey was quite wonderful; it amounted only to eighteen pounds of pemmican, thirty-one pounds of biscuit, and eight pounds of oatmeal; the period of travelling was nine days three

hours, and instead of there being a decrease of weight from this consumption, the contents of the sledge actually weighed one hundred pounds more than when they started, from the accumulation of ice on the blankets, tents, coverings, &c., caused by the vapour emanating from their bodies, being rapidly converted into frost, and deposited on everything around. The want of water was most severely felt, as melting the ice generally entailed loss of time; and the quantity of fuel taken proving much too small, the water was consequently limited; but all united in saying that any sacrifice would willingly have been made for the smallest quantity, when thirst was so intense. To the want, therefore, of this luxury may be attributed the inability of the travellers to eat, as thirst was always an accompaniment and early sign of the exhaustion ever present after their day of laborious exertion.

The pemmican* was not relished from their being obliged to eat it cold, which increased the thirst.

* The pemmican prepared for Sir J. Richardson's expedition was made at the Clarence Victualling Yard, as follows: the meat from which the fat and membraneous parts were pared away, and cut in pieces, is dried on a malt-kiln over a slow fire until its moisture was entirely dissipated, and the fibre of the meat became friable; it was then ground in a malt-mill, when it resembled finely-grated meat; being next mixed with nearly an equal weight of melted beef suet or lard, the preparation of plain pemmican was complete.—*Richardson's Boat Voyage.* In the north, reindeer and buffalo flesh is substituted for beef, and mixed with a third of its weight of fat.—*Author.*

It was consequently but sparely eaten—not, however, from any dislike to this food. Previous to their starting, I recommended that oatmeal should be taken, and given to the men with a little water when thirsty; this I had elsewhere seen practised with good effects, and though but an indifferent substitute for pemmican, it was not only taken in the water but in the cocoa. It was found to support strength, in addition to which it was much relished, and afterwards highly spoken of as an article of diet on such service. Their privations almost entirely arose from the quantity of fuel being inadequate to their wants. They had all lost considerably in flesh, and were more or less frost-bitten, but no other casualties occurred. Although the result of this journey had been anticipated, we hailed it with the greatest satisfaction, and the perseverance, energy and zeal with which it was performed, must ever redound to the credit of Captain M'Clure and all engaged in it.

On the 1st of November, the thickness of young ice was found to be twenty inches: preparations were made for finally closing in for the winter, the temperature between decks at night having fallen to 7°—the hatches were closed and the usual housing placed over the ship. A bed of snow about sixteen inches deep was laid on the upper deck, over which a macadamized covering of sand and gravel was spread, and an embankment of snow about eight feet was built around the ship; both of which con-

tributed largely to maintain warmth in the interior. Ventilation was the next subject which required our attention, and we adopted the principle, I believe, first proposed and acted on by the late Captain Owen Stanley, when Lieutenant of H.M.S. 'Terror,' in a former expedition; for simplicity and efficacy it is deserving great praise, as nothing better could be adopted with the resources at our command. It consisted of copper tubes from ten to sixteen inches in diameter, passing through the deck, from the top of which canvas funnels were attached, and conducted through the housing cloth to the open air, to the height of about fifteen feet. These promoted a good draught and the free escape of the foul air generated below, as was evidenced in the dense volume of vapour which ever issued from their tops. By this means and from the fact of the men having been kept off the lower deck for so many hours of the day, the air between decks was rendered much more salubrious and conducive to health and comfort, than it would otherwise have been; notwithstanding our best efforts, it was humid and impure, from the rapidity with which the vapour that could not escape was condensed by the coldness of the deck. But on this principle of ventilation, should ships be prepared for wintering in the Arctic Regions; it admits, however, of very considerable improvement, and would have been rendered much more perfect with a larger allowance of coals, and an additional

stove on the lower deck, which would not only prevent in a great degree the condensation of vapour and consequent humidity of atmosphere, but facilitate the escape of impure air, and contribute to the general warmth, dryness and salubrity of the ship.

Fires were about this time lighted, which included Sylvester's stove for the general warmth of the ship, a small stove in the Sick Bay, in which seven pounds of coals were daily consumed; one in the officers' mess-room, where from eight to twelve pounds of coals were burned, (the latter only in the depth of winter), and one in the captain's cabin, for which sixteen pounds were daily issued—in addition to which there was the galley fire, or the lower deck for cooking throughout the day. From this it will be seen, our fires could not have been of a very extravagant character, and the value of fuel in the Arctic Regions may be duly estimated.

A school was, at the same time, established for the instruction of the men in reading, writing, and arithmetic, each evening on the lower deck, which was well attended, and proved an agreeable source of occupation to many.

For the few first days in November, we were variously employed—a road was formed to the Princess Royal Islands by levelling the ice, and marked with poles, as guides; the cairn was completed, and on the 6th, when making my last visit to them with a sledge party, for the purpose of removing the geological

specimens collected, we were on our return caught in a snow-storm with a heavy gale from the south-west, which obliterated any trace to guide our return, and shut the ship out from view. Guns, however, were fired at intervals, to direct us towards her, some alarm having been felt at our absence. The increasing intensity of the cold rendered us almost incapable of facing the high wind; and the consequence was, that the repeated exposure of the hands to restore animation to the face, caused the former to become also frost-bitten. My right hand was so severely bitten, and the mischief spread with so much rapidity, that on reaching the ship, it was a stiff, frozen mass. I had not the slightest ability to bend it, and, on plunging it into a bason of cold water, a thin film of ice formed on the surface. I lost the use of it for a period of two months, and was, for a time, apprehensive of its safety.

On the 11th of November, the Sun took his departure—the day was beautifully clear and serene, one of the few fine days we had lately had, as the weather had been, for the most part, very tempestuous. There was scarcely a breath of wind, and the temperature had fallen to 26° below zero. When the last glimpse of the sun was revealed to us as he reached his meridian, he displayed in gorgeous splendour on the margin of the southern horizon, a segment of his upper limb, and as if to add greater effect to this, his last appearance in these dreary solitudes, his rays were

most truthfully reflected on the western sky, from whence, shedding their prismatic tints on the land beneath, he imparted an appearance of rare beauty to the scene, where stillness and solitude alone prevailed. Thus commenced the long Polar night of dreariness and gloom.

Everything at this time wore a truly wintry aspect; snow had fallen in considerable quantities, and nothing but a uniform white surface met the eye wherever it wandered. The ship was completely embedded in it, and appeared as if she could never move again. A death-like stillness reigned around, which it was delightful to hear interrupted by the sound of a voice or the tread of a footstep, on the frozen surface of the snow. The slightest incident was gladly seized on as a subject of conversation and comment; and thankful did we feel for the agreeable excitement afforded by the occasional visit of a Raven,* the capture of a Fox, the pale bright light of the moon, with occasional parasellenæ, the brilliant splendour of the Aurora, the constant presence of stars, or the meteoric flash of aërolites.

It was surprising with what readiness men accom-

* We were visited almost daily by two Ravens, which crossed the Strait from west to east, and returned again in a few hours, but before the close of winter one only was observed; and early in the spring, when visiting the Western Land, found the wing-feathers of our missing friend, which had, no doubt, become the prey of a Fox.

modated themselves to a mode of life, strange and novel to the majority of them, and how readily they turned every event to good account. It is on such service, that fertility of resource is ever advantageous—a fertility that great author of invention—Necessity, never fails to bring into play. It was really astonishing to witness the number of tradesmen that were to be seen at night, on our lower deck, all actively engaged at their respective pursuits; tailors, bootmakers, and knitters: a great variety of needlework, everything, in fact, that a needle is capable of doing, was, at least, attempted; and it was no less laudable than strange to observe the progress which ingenuity, and industry enabled them to make, and the degree of perfection which they ultimately attained, as they were, I may say, all self-taught. Nor was reading, and improvement of the mind generally forgotten; for while thus engaged at work in groups, they generally had the best scholar (as he was termed,) engaged reading to them aloud. Thus were the evenings passed—the day being occupied in exercise, and the light duties they were occasionally called on to perform.

We had happily entered on the winter in good health and spirits, and prepared to await with patience until daylight should again return, and the season of active operations should commence. The weather throughout the entire of November was for the most part boisterous. Northerly winds prevailed, and the

temperature ranged from zero to 32° above it; showing a mean for the month of —10° 2′, that of the lower-deck 48° F. and height of marine barometer 29.739 in.

December was ushered in with a north-westerly gale, and heavy snow-drift; the thickness of the ice had increased 10½ inches, being found to be 2 ft. 6½ inches. No incidents of consequence occurred to render it in any degree more marked, if I except the capture of a few foxes in our traps, which afforded us the rare, exciting sport of a hunt, after a fashion of our own. The little captive was "unearthed" from its trap on a large neighbouring floe, where we formed a circle some 200 or 300 yards in diameter, to prevent its escape, when pursued by a little Esquimaux Dog we had brought from the coast of North America, and which we had, for the occasion, raised to the dignity of a foxhound. The chase invariably proved amusing, and never failed to afford us a pleasing degree of excitement, as long as the cold enabled us to remain spectators; but, indeed, nothing fails to prove exciting to men under such circumstances, trifling as it may be.

The winter solstice, at length, came—an important epoch in our calendar, as we were aware from this period, that the sun was again on his way towards us, and that one half of the season of darkness had then been passed.

The advent of Christmas was cheerfully welcomed. Our best efforts were bestowed to make it pass with

as much hilarity as circumstances, and our own resources, could admit of. Our larders were ransacked for the choicest dainties; and, amongst the rarities produced, were beef six months old, which had been nearly all that period frozen, and a sirloin of musk ox, which would have ornamented any table in a more temperate clime. Many an anxious, longing thought was bestowed on our far distant homes; many a prayer was breathed and hope expressed that, if spared to see another Christmas, and freed from the perils of our position in the pack, it might be spent far without the limit of the Arctic circle. Thus passed our first Christmas in the ice, which we had so sanguinely hoped would be our last; but how little did we then foresee what the future had in store for us!

On the 28th, we were favoured with a hasty visit from a Seal, which made his appearance in the fire-hole*—doubtless glad of the opportunity it afforded him of freely inhaling the air. These animals have the power of keeping open throughout the winter a small orifice in the ice for respiratory purposes, over which an Esquimaux will frequently sit for hours in the hope of capturing them.

The weather throughout the entire of this gloomy

* This is a small space of water about two feet square, kept open throughout the winter by removing the young ice as it forms every hour, so as to ensure a supply of water in the event of fire.

December differed but little from the previous month; but the cold was considerably greater, having ranged from 3° to 39° below zero, with a mean of —23° 36′, that of the lower deck 48° 4′, and the force of wind 2.48.

The last days of this eventful year closed on us, presenting a picture of wildness it is difficult to conceive. A heavy, north-westerly gale and dense snow-drift confined us to the ship; and thankful were we for such comfortable shelter from the pitiless blast that swept over us—to which we could not for an instant expose ourselves with safety.

CHAPTER XII.

The First Day of 1851—Our Health and Efficiency—Inspection of Crew—Thickness of Ice—Reindeer seen and pursued—Temperature of the Month—Return of the Raven—Re-appearance of the Sun—A Wolf and Incidents—Effects of Sun's Rays on Ice—First Spring Operations—A Fox—A Hare killed—A Bear seen and Pursuit—Visit to the Western Land—Baring Island and Incidents—Appearance of Land—Removal of Snow Embankment—Temperature of the Month—Survey of Provisions—Sudden rise of Temperature—Preparations for Travelling—Despatch of Searching Parties—Their Direction—Importance of Visiting Melville Island—Captain Austin's Expedition—Pursuit of a Bear—Snow Bunting—A Seal killed—Report of Game on the Land—Return of Mr. Wynniatt and his subsequent departure—Shooting Parties—An Incident of Sport—Success in the Chase—A Bear shot—Incidents and Events.

THE year 1851 was ushered in with a continuance of the gale with which the preceding one had closed. It raged with unabated fury, heightened by heavy squalls, at intervals, dense snow-drift, and all the concomitants of a northerly gale; these, with the prevailing gloom and darkness, made the prospect more than sufficiently dismal. It was on such occasions we were forcibly reminded of the probable condition of those of

whom we were in search, and how vain must be all human powers of endurance, opposed to the rigour of the elements—such as we had experienced for the few previous days—from which we scarcely found sufficient protection in the best appliances of art. We could only hope a better fate had befallen them than our fears led us to predict. The year, in other respects, dawned on us auspiciously. We were in good health and spirits, with only one or two men on the sick list, and otherwise in a state of efficiency highly gratifying.

From this period, I adopted the custom of inspecting the ship's company on the first day of every month, to ascertain the first appearance of scurvy, or the existence of other causes of disease; that early precautionary means might be had recourse to, to maintain our general efficiency. From the admirable results which attended this practice, I would strongly recommend it to be regularly carried out in all ships employed on similar service; as it enables the Medical Officer not only to combat disease with more success at its onset, but affords the positive evidence of the actual state of health of every man on board.

We had on this day a repetition of the hilarities of Christmas, and indulged in such delicacies as I am sure our friends at home could not have imagined, as having been within our reach in these inhospitable regions.

We found the ice had increased thirteen inches and a half in the course of the month, affording a mean

thickness of three feet eight inches. On the 3rd, the gale abated, having left a bank of snow drift accumulated about the ship to the depth of thirteen feet; and we were delighted to be released from the confinement caused by its continuance. On the 6th, one of our men, (John Ames,) the sick bay attendant, in the course of his perambulations over the ice, saw three Reindeer about a mile and a half from the ship, apparently coming from the Western shore. Darkness enabled him to approach within twenty yards, but on seeing him, they trotted off in the direction of the Princess Royal Islands. No less astonished than affrighted at what he had observed, he hurried on board to inform me, and brought with him unmistakeable proof of his truth. The intelligence was most cheering to us all, as it verified the opinion we had previously entertained that these animals were never absent from either shore during the winter. This was rendered more remarkable, no records existing of Deer having been seen in corresponding latitudes at this season of the year, as it was generally believed, that they migrated to the southward on the approach of winter; which this and subsequent experience enabled us to refute. An early dinner off venison was predicted; and arms and ammunition underwent a complete overhauling for the remainder of the evening.

The morning of the 7th was dark and cloudy, with snow falling. It was determined to follow the track

of the Deer as well as darkness would allow. Accordingly, Captain M'Clure and myself left the ship at 9.30 A.M., there being a gleam of light sufficient to enable us to see our way, with a temperature of 30° below zero; and we proceeded in the direction of the islands. After innumerable falls while clambering over rough ice, we reached the locality, but failed to discover any trace of the Deer, they probably having gone to the opposite side of the Strait. However, as no doubt existed of their having been here—their tracks being still visible on the floe ice—it raised hopes amongst us of early sport in the coming season. We had some difficulty in regaining the ship, her dark outline being shut out from view; and were afforded ample evidence that the season was not yet sufficiently advanced to make lengthened excursions. The sight of a solitary Ptarmigan, however, recompensed us for the journey, and enabled us to return with some agreeable intelligence.

Towards the middle of January there was a perceptible increase in the amount of light at noon, and the stars appeared less brilliant, which indicated the approach of the sun. Each successive day appeared a counterpart of the preceding, having the same daily system of routine. More frequent excursions were made to the islands, since the appearance of the Deer, in the hope of meeting them; and trifling as the incidents were which attended these journeys, they compensated us in some degree for our

want of sport, by the agreeable excitement which attended their occurrence or narration. On the 12th, Mercury froze in the thermometer for the first time, the temperature having fallen to 45° below zero, or 77° below freezing point of Fahrenheit, and two days subsequently to 83°, but it did not exercise the same influence on our spirits, which were still buoyantly rising with an advancing season. The beautiful pale light of the moon, with an occasional halo and parasellenæ, and in her absence, the Aurora Borealis, tended to disperse some of the gloom of winter. The latter was not so brilliant as we had seen it at an earlier period of the season, in October and November—probably from there being less moisture in the atmosphere. On the 30th we were gladdened by the re-appearance of our Raven, which for some days had been absent, and we feared that he might have shared the fate of his mate, who had ceased to visit us for a considerable time. I cannot describe the degree of interest with which we watched for this daily visitor, and his return was regarded as an important event.

January well maintained its character as a cold winter month; the latter part was intensely so. Frost-bites were frequent and severe, on the slightest imprudent exposure, which entailed the necessity of covering the face; and frequent high winds, rendered us at times quite unable to leave the shelter of the housing. The daily average for the month was 32° 50′ below zero—nearly 10° lower than that of the preceding month.

Towards noon, on the 3rd of February, the appearance of a rich golden-tinted sky, forcing its way through a dense bank of haze, which hung over the summit of the western hills, at once assured us of the proximity of the sun; and at noon our hearts were gladdened by his presence, as he lighted up the dreary regions that had been eighty-three days in darkness. It was delightfully exhilarating to observe the reflection of his rays as they found their way through the chance openings of our housing; and equally so, to observe our own shadows on the snow covered waste around us. We hailed his return as an important epoch, hoping never again to lose him for so long a period; and congratulated ourselves that the darkness of an Arctic winter had nearly passed. The ice was found to have increased 13½ inches during the month.

On the 7th, some of our men, who had gone to the islands, were on their return followed by a Wolf, the first that had been seen; they thought from his audacity in approaching within twenty yards, that his intentions were not honourable; so, having no fire-arms, they ran, and the wolf ran; when they stood a little to watch him, he stood—and in this way they at length reached the ship in a state of great consternation, still followed by the Wolf. This was, indeed, glorious news, so we sallied out with guns and boarding pikes, either for pursuit or attack; but we failed, by the non-exercise of proper strategic

skill, as he made a hasty retreat. Such a visitor, however, was not to be so easily disposed of, and we remained anxiously watching for his return. In the meantime our little Esquimaux dog, having found her way out on the ice, enticed the wolf from beneath a neighbouring hummock where he lay concealed. He came up in the most playful manner, and like one of her own species caressed and played with her for some time; at last both started off together, and we gave our favourite little pet up for lost. She, however, again made her appearance, followed by the Wolf close to the ship. We then made a line fast round her neck, and again sent her out, that in the event of danger we might haul her on board. This had the desired effect of bringing forth the Wolf, but we never could get him in a sufficiently good position for a shot. He remained about the ship for the next few days; eluding, however, all our best efforts to get a shot at him—yet it was an event which afforded us much pleasurable excitement.

As the sun increased his altitude, "Parhelia" were frequent and more beautiful than at any other period of the year. It was quite delightful to see the effect of light and shade once more, as his rays fell on the pinnacled and rugged surface of the pack. We could not but contrast the cheerfulness imparted by his presence on the dreary ice waste, with its aspect during the period of his absence. But he shines a long time before his effect becomes manifest on such ice

in such a temperature; indeed I have frequently had one side of my face partially warmed by his rays when the opposite was frost-bitten, and required constant friction to restore its vitality. The first visit was paid to the eastern shore on the 24th, unattended by any incident; and from this time our excursions to it were frequent, having several hours daylight. The cold of this month much exceeded what we had previously experienced, having varied from 9° to 51° below zero, with a daily mean of —37° 47′ exceeding that of January by five degrees. The weather was more clear and serene—the usual accompaniment of a very low degree of cold.

March was gladly welcomed, and as the days lengthened, afforded us time for more extensive excursions, and enabled the men to enjoy themselves at out-door sport and games on the ice. My inspection of the crew this month was very satisfactory; although somewhat blanched from the absence of daylight between decks, they afforded most pleasing evidence of being in a high state of efficiency, and equal to the performance of any service.

On the 3rd, our first spring operations commenced, incidental to the departure of the travelling parties as soon as the season admitted of it. It was, therefore, determined as a preliminary step to form a depôt of provisions on Princess Royal Islands, to which a boat was added, and also one on the eastern land; that in the very remote probability of a sudden disruption of the

ice, and injury or loss of the ship, we might have independent means at our disposal for transit to the coast of America, or elsewhere, as circumstances might render necessary. Accordingly the first whale boat, was, after great labour, conveyed on sledges in safety to the larger island; after which the provisions were conveyed in the same manner (sufficient for sixty men for three months) and on the 10th, the labour was completed by placing a boat on the eastern land. A record was at the same time placed in the cairn which had been erected at the commencement of winter. While one day engaged with others in tracing out a road for its safe transit which we marked with empty meat tins, a small Fox, no doubt pressed and tamed by hunger, approached quite close to us to examine one of them, wherein he luckily found a piece of meat. He was observed by our little dog, who immediately gave chase, and after a short but very exciting race, in which we all joined, Reynard fell a prey to his temerity. These pretty little animals, from the effects of hunger, become so tame, that they were frequently caught in the traps on deck, having voluntarily come on board, and were more numerous, judging from the number of captures which were made, than at the beginning of the season. As a proof of the scarcity of their food, at this season of the year, I found the stomachs of some quite empty, with no trace of food having been lately taken—in others, there were small pieces of the dwarf willow, and

in one it was distended with the hair and portion of the hoof of a deer, which had in all probability fallen a prey to some hungry Wolf, and thus afforded it a scanty meal. A Hare was shot on the Eastern land on the 22nd—this was a great event, no less from its having been the first killed, than from the pleasing evidence it afforded us of the presence of such game.

On the 27th, we were cheered by the admission of daylight to our mess-room—the skylight having been exposed, for the first time for nearly six months; and I need not say how welcome and acceptable it was to us all. An occurrence novel in itself, and no less agreeably interesting in its results, happened on the 29th. A party having gone to the islands, returned at noon and reported having seen a recent bear track, which put every one on the *qui vive*, anxiously watching for this expected visitor. About 4 P.M. to our great delight, Bruin was observed slowly emerging from the rough ice about 400 yards distant from the ship, when all manifested the greatest anxiety to obtain a sight of him—the majority for the first time—and our guns were at once in readiness for action. The dark appearance of the fox traps on the ice, had first attracted his attention. To them he proceeded, doubtless attracted by the smell of the bait, which must have agreeably assailed his keen scent; after tossing the trap about for some time, and finding all efforts vain to obtain the modicum of meat it contained, he wandered to and fro—evidently fearful

to approach near the ship. His presence added to the wild and dreary aspect of this icy region, which the existence of a gale tended much to heighten, as the snow-drift was borne in dense clouds on the wings of a biting blast. A few of us cautiously sallied forth for the attack; just as we had got within range, and were shut out from view by a lofty hummock, our approach over the frozen snow aroused him to a sense of his danger, and off he started, much to our chagrin. To have followed him would have been quite futile, and we returned on board smartly frost-bitten from our short exposure. He again made his appearance, but set at defiance all our efforts to get a shot. The visit proved a welcome one, affording us as usual an agreeable topic of conversation; and as he had come from the south, we assumed that he was then on his annual migratory tour to the more distant regions of the north. The appearance of the ship, we hoped, would prove sufficiently attractive to induce many others to visit us.

On the 31st of March, Captain M'Clure, Lieutenant Cresswell, and myself, proceeded to the western land, (Baring's), it never having been visited since we took possession of its southern extreme, when first discovered. We reached it after a pleasant exciting walk of nearly three hours over the ice; the day cold and clear, with a temperature of 31° below zero. The first objects that met our view, were the tracks of a wolf, and numerous foxes, and recent appearances

of the slaughter of a Hare—every particle of flesh and bone must have been devoured, as the only remnant we discovered, was a little of its soft, white, downy covering, and a few drops of blood staining the snow; strong proof of the ravenous hunger which exists amongst these Foxes towards the close of the long, dreary winter. A little further on we found a portion of a raven's wing; doubtless, that of our former visitor, whose absence we had so much regretted.

We proceeded directly inland, for some miles; the general aspect everywhere presented the same character of Arctic barrenness and sterility as on the eastern side; but was more generally bold and lofty in its outline, and the land more elevated. Cliffs, from 80 to 120 feet high, rose here and there abruptly from the beach, presenting a bold and almost precipitous escarpment, skirted by deep ravines and valleys extending irregularly and tortuously into the interior, and ultimately losing their character as the land became low and undulating. We observed, however, in some parts of their course, that the hills on either side were lofty, and in some places nearly vertical, rising to a height from 200 to 300 feet. Those having an eastern aspect, had their escarpment formed of a hard frozen snow, contrasting forcibly with the denuded wild appearance presented by those with a western front, which evidenced that the prevailing winds were from the latter quarter.

The soil was composed of a scoriaceous admixture,

with large stones and boulders plentifully strewn over its surface; the latter had a uniform covering of granitic, quartzose, clay-slate, and other pebbles, hard frozen in the soil, with a few scanty tufts of withered grass interspersed throughout. In the valleys, Nature appeared to be more lavish of her gifts; they were favoured by the shelter afforded by the neighbouring hills, and the deposition of alluvium born down from the heights, by the melting of the summer's snow.

The numerous detached patches of low, stunted, and withered grass, and tufts of moss, peering through the snow, were, however, the only appearance of more luxuriant verdure that could be observed; they furnish the only sustenance which can be obtained by the reindeer, hare, and other small rodents, during the season of dearth and darkness.

On our return to the ship in the evening, we had the pleasure of seeing her dark hull again exposed to view—the deep snow embankment which concealed it having been removed during our absence—and thus unrobed, she presented a pleasing contrast to the white surface around.

An event of no less importance in Spring operations took place on the following day—the removal of the snow from the upper deck. It was wonderful to see what an altered appearance everything presented on board; pleasing and agreeable was it, indeed, to all, to walk the plank again, and receive, between decks,

the light of day, from which they had been so long excluded.

The last of the very cold winter months had come to an end, and gladly did we hail all the agreeable events which attended its close, evidencing the advent of a more genial season, and the commencement of active operations. The mean temperature —28° 8′ was higher by 8° than that of the preceding month, although the range differed but little—from 5° to 51° below zero. Cold westerly and north-westerly winds had generally prevailed.

April had, at length, come, and found us in a high state of efficiency, which from this period was fully tested. The ice was fonnd to have increased 9½ inches, and was then 6 feet 5 inches thick. The first work commenced, was to ascertain the exact quantity, state and condition of the provisions on board, that we might be fully aware of the extent of our resources, and dependent as we were entirely on ourselves, it was a very necessary measure of precaution. The holds were accordingly cleared out, and light and air admitted; this tended much to their purification, and then the contents were returned.

On the 3rd of April, during the prevalence of a south-easterly gale, the temperature rose in the course of four and twenty hours from 30° below zero to 6° above it, but the following day was as low as before; a wonderful change in such a period. The continuance of the gale had brought up the warmer air

from the southward—a circumstance which, on several occasions, occurred in subsequent years, generally at this season.

The ship having suffered more or less from the effects of pressure in the previous season, was caulked throughout, that we might be better prepared to encounter the enemy in the coming one.

Until the middle of the month we thus continued variously employed—the travelling parties having been told off, were engaged in preparing their sledges and general equipment to start on their respective routes, as soon as the weather admitted. The neighbouring lands were frequently visited and explored, in search of game; but our efforts, hitherto had been unrewarded—the occasional sight of a Ptarmigan, alone compensating us for many a weary and toilsome march over the ice and snow. They, however, answered one good purpose, that they were the means of bringing us into good working condition, and better prepared us for subsequent exertion in the chase.

On the 14th, it blew fresh from north-east, subsequently changing to the southward; then the temperature again underwent a change similar to that noticed on the 3rd; on the 17th it rose 6° above freezing point, when a partial thaw set in, which was to us quite unexpected. It was, therefore, determined, should it continue for another day, to start the travelling parties; the sledges (three in number,) were

accordingly packed in the evening, and dragged out for a short distance, preparatory to their departure.

On Good Friday, the 18th, the temperature had fallen to 28° at noon, and continued doing so slowly for the remainder of the day; and, as had been previously determined on, the travelling parties were dispatched in the evening at 7.30 P.M. I may here remark that ice travelling at this season of the year is performed during the night, the persistence of daylight enabling them to proceed, the warmer hours of the day being devoted to rest; and the exhausting effects and blindness produced by the combined action of snow and sunshine are thereby obviated.

Each party consisted of one officer and six men, with a sledge provided with food, fuel, and clothing for forty days; the aggregate weight of which amounted to 1028 pounds. That under the command of Lieutenant Haswell was ordered to proceed along the south-eastern coast of Prince Albert's Land, continuous with that of Wollaston previously discovered. That of Mr. Wynniatt proceeded along the north-western coast of this land to search the southern shores of Barrow's Strait towards Cape Walker; and Lieutenant Cresswell, with his party, took the north-western coast of Banks' Land. They left us with three hearty cheers for their safety and success, full of hopes and in high spirits. Each were accompanied for some distance by a fatigue party; and I went in charge of that which attended the northern travellers.

I find in the pages of my journal, written at that time, expressions of deep regret, which an impartial discharge of the duty, I have undertaken, compels me to notice, viz., that we did not then send one of these detachments to Melville Island, for reasons too obvious almost to require any explanation. Had one party only left the 'Investigator' instead of three, it should undoubtedly have been sent to this far-famed locality, from the southern extreme of which we were distant little more than 100 miles. We were aware that a well-equipped and efficient expedition of four ships, under command of Captain Austin, had left England to prosecute the search by Barrow's Strait; the great and primary object of which was to reach Melville Island—much dissatisfaction and disappointment having been experienced in England that Sir James Ross had failed in doing so the previous year. It was, therefore, a matter of the most vital importance to connect our Expedition with that of Captain Austin—thus completing the circuit of search from either side of the American continent—to make that officer aware of our position, that we might be able to afford each other mutual succour and support, and that the efforts of search might be directed elsewhere; establishing a combined principle of action, which is ever the first element of success. There could exist no doubt that if that able and energetic officer, (Captain Austin), did not reach Melville Island in his ship, his first efforts would be made in that

direction; this, as we subsequently learned, he successfully accomplished, a party from his ship having deposited a record at the far-famed sandstone near Parry's winter quarters, where they would also have received intelligence of our position, had we had the good fortune to have done the same. With the knowledge of our position, this officer never would have left the Polar Sea in 1851, but would doubtless have despatched intelligence of it to England that year; this would have prevented the necessity of the expedition of Sir Edward Belcher being sent in search of us, when anxiety was felt for our safety; and by his neglecting a course which wisdom and foresight should have dictated, did we undergo subsequent years of hardship, privation and suffering.

There was another reason of even greater import—in the event of Franklin having gone up Wellington Channel as was then very generally supposed, and being obliged to abandon his ships to the northward or westward, nothing was more probable than that he would endeavour to reach the locality where Perry had spent a winter in the hope of meeting with succour—in accordance with the opinions entertained, as proved by the great efforts made to reach it—where it might be expected tidings of him would have been heard. But I am consoled by the reflection that neither he nor his gallant band were then depending *on us*, amid its dreary wilds, for relief. Our south-eastern party could have been made available for

this service; for it was only in a geographical point of view that any results were expected, as we were fully aware that the duty of searching its southern and south-eastern coast was, at that time, being performed by Mr. Rae, of the Hudson's Bay Company's Service. It is needless to dwell further on this subject. I adduce it, not for the purpose of exposing an error which adds nothing to our credit, but that its repetition may be avoided, as well as to show that a combined plan of action should ever exist among Polar Expeditions, and that all personal considerations should be cheerfully cast aside to promote the object of the service on which their country sends them forth.

Immediately after the departure of our travelling parties, the weather assumed an unfavourable aspect, became foggy, with a heavy gale from the north-west. The temperature at the same time fell: we became anxious about the northern parties, as we feared they might be compelled to return; but, fortunately, the gale ceased in the course of a couple of days with every prospect of finer weather. As there was but little to be done in the way of work, our exertions were devoted to the chase. Long and frequent excursions were made to either land; on one occasion, we discovered the remains of an Esquimaux hut on Prince Albert's Land, also a piece of a sledge, and some bones of seals and foxes—another proof of their having visited this coast. On the evening of the 23rd, when all was still about the ship, a large Bear was observed

slowly coming up from the southward, and stopped at about 180 yards: at this distance, he took up a position, gazing intently on the ship, and eagerly sniffing the air. We waited for a few minutes in hope of his approaching nearer; but possibly suspecting our intentions, he was proceeding on his course to the northward, when one of us fired, and it was thought, wounded him, as he fell on his knees, and staggered a little. He again started at a brisk pace, pursued by myself and a few others, when I fired and wounded him in the hind-quarters without arresting his progress. Not having time to reload, I pursued him with the bayonet, having taken the precaution of fixing one to my gun in the event of coming to close quarters; but, after a fruitless chase, he eventually made his escape. He was a noble-looking animal, the largest we had yet seen; and we consequently regretted that he had not fallen to our guns.

On the 27th, we hailed with pleasure the appearance of the first of the feathered tribe that had visited us—the hardy little Snow Bunting (*Emberzia Nivalis*) was seen chirping about; it is considered the certain harbinger of spring.

The few remaining days of this month were unmarked by any incident—they proved more boisterous than any of the preceding—the force of the wind having averaged 3·1, and were generally cold for the season, the temperature ranging from 38° above, to

32° below zero, with a mean of —4° 78′. Much snow fell, which I remarked was beautifully crystallized, some instellated, others in a pennated, hexagonal form, larger than was generally observed during the winter months of intense cold.

On the 1st of May, we found the solid ice to be six feet eleven inches—showing an addition during the month of six inches, a diminution of more than a third from that of last month; and as it did not subsequently increase, the winter's ice may be estimated at seven feet in thickness. A Seal made his appearance in the fire hole on the 2nd, with less impunity than our former visitors, for being observed by the Quartermaster, who was standing close to it, he seized a boarding pike, and with much adroitness passed it through his skull, fixing it to the ice until assistance arrived, when he became our captive. On examining it, I found the remains of numerous old wounds in his skin; as the males fight much amongst themselves at certain periods, he had doubtless got them in combat with his fellows. There was nothing of him lost; the skin and skeleton were preserved for specimens, the blubber was kept for the dog, and the flesh was eaten, and was considered by no means unpalateable.

On the 5th, our efforts in the chase were, at length, crowned with a cheering amount of success; a party having gone to the western land, returned in the evening with four Hares and three Ptarmigans, afford-

ing us pleasing evidence of the existence of game on this land, where we had hitherto looked for it so often in vain. They had gone further inland than any who had previously visited it, and delighted us with the account they gave of the number of hares which had been seen, in groups of six and seven, wonderfully tame, allowing them to approach near without manifesting any alarm. They also observed numerous bones of quadrupeds strewn about, Reindeer and Musk Oxen; several skulls of the latter were partially imbedded in the soil, and one or two of them were brought on board. On receipt of this intelligence, it was determined to send the following day a shooting party to either land, with tents, provisions, &c., for a week, to be relieved then by others—so that every advantage might be taken of the favourable opportunity of procuring fresh supplies; for however small in quantity, it could not but prove acceptable.

At 1 o'clock on the 6th, our slumber was disturbed by the Quartermaster of the watch, reporting, to our amazement, that a figure was approaching the ship from the northward, which he thought was Mr. Wynniatt, and soon afterwards the nearer approach of this officer fully verified the fact; at the same time his party with the sledge were observed some distance in the rear, emerging from the rough ice that skirted the neighbouring floe. The intelligence had brought all immediately on deck, and a party was at once despatched towards them. From Mr. Wynniatt's account

no accident to himself, or any of his party had been the cause of his return; but a fall on the ice, nine days after leaving the ship, had so damaged his chronometer as to render it entirely unfit for use; and being unprovided with a watch, he was unable to take observations to determine his longitude. He, in consequence, deemed it prudent to retrace his steps—that provided with another he might start again, and fulfil the tenor of his instructions. There was not an available pocket chronometer on board, but it was determined to dispatch them again that evening in the same direction with thirty days' provisions. According at 6 P.M. the two shooting parties for either land, and that of Mr. Wynniatt—both fully equipped for their respective services, which had given us a pleasing amount of exciting work during the day—were drawn up on the ice, and took their departure with the never failing three cheers. I took charge of a fatigue party as large as we could afford to accompany and assist Mr. Wynniatt some distance to the northward. The weather looked favourable; temperature 3° with a light south-westerly breeze; and we earnestly wished them better luck.

On the 7th, a small party of four left the ship for the western shore, to visit and have a day's sport (as they termed it) with that which had been dispatched thither the previous evening. Not returning, as we expected them, towards the close of the day, we assumed that the unfavorable change in the weather,

with a low temperature, high winds, and dense snow-drift, had induced them from prudential motives to take refuge for the night in the tent, which allayed the apprehension we should otherwise have entertained for their safety. On the 8th, the weather had undergone no change, except that the temperature had fallen several degrees below zero—notwithstanding the sun's altitude at this period, and the short time he was below the horizon, the low degree of cold and the high winds scarcely allowed us to be convinced of the advent of summer, despite the cheerful appearance which perpetual daylight imparts to these regions. About 8 A.M three of the party, which had the day before left us, made their appearance on board; the fourth having been left on shore in the tent, had nearly perished under the following circumstances:

The unfortunate subject of the occurrence, William Whitfield, carpenter's mate, soon after they arrived, left the tent with others in pursuit of hares, which they had previously observed. When absent about an hour, they separated by mutual consent, but remained in sight of each other, until a heavy snow storm coming on they were lost to view. Whitfield, when distant from two of his companions about 160 yards, having been warm and perspiring from his previous efforts, felt himself become suddenly cold, was seized with headache and giddiness, and fell down insensible. This was unobserved by his companions, who soon sought the tent for shelter,

supposing that Whitfield had preceded, or would soon follow them. In a state of insensibility, he thus remained for, at least, two or three hours, until a slight degree of consciousness returned, when he made an effort to extricate himself from beneath the snowy covering which had accumulated during the prevalence of the storm. It failed, being unable to move his limbs, and he had likewise lost the power of utterance. He observed at no considerable distance some of the men, whom he knew were in pursuit of him, but was unable to attract their attention; and from being covered with snow, was unobserved. Happily, however, the efforts he made to free himself, produced some excitement of the heart's action, when he felt a glow of heat over his body, with returning power in his arms—his lower extremities remaining still cold and rigid. After a short time, he made an effort to crawl over the snow to regain the tent, but failed in doing so; he then obtained a view of the ice in the Strait, and slowly crawled towards the beach, which he fortunately reached. Having observed some traces of Musk Oxen, which they had passed in the morning, he recollected the course they had pursued to the tent, which was only some 400 or 500 yards distant, in a neighbouring ravine—thither he again crawled and most Providentially reached it.

The party in the tent had remained in a state of great anxiety as to his fate; they had made repeated efforts in search of him, exposed to all the fury of the raging

gale, and to the risk of losing their way in the dense snow-drift by which they were enshrouded. Opinions were divided in the council as to his fate, but the majority thought that in the eagerness of chase, he had been led far from the tent, and had returned to the ship. While this state of uncertainty existed, their attention was suddenly arrested by a noise outside, as if something slow and heavy in its movements was approaching. They thought it was the pad of a bear, the tracks of several having been observed close to the tent in the morning. They at once 'stood to their arms,' ready for attack or defence in the event of Bruin being the visitor. One of them then opened the tent very cautiously but saw nothing, and on venturing a step or two outside, to look around him, instead of a bear, the appalling spectacle of their missing companion met his view. The poor fellow had crawled within a couple of yards of the tent, when he was unable to proceed one step farther; he could not speak, his body rested on his hands and knees, the head thrown back, the eyes fixed and immoveable, the nose, mouth and ears filled with snow, which was fast accumulating about him; the jaws and limbs rigid. A few minutes more might probably have terminated his earthly career, when by the interposition of a merciful Providence, he was thus rescued from the jaws of death. He was immediately taken into the tent, and as the officer in charge of the party, (Mr. Sainsbury,) subsequently informed me, no

pulse could be felt at the wrist, a slight movement of the chest being the only indication of life. They set about to resuscitate the almost lifeless body, by means of warmth, friction and the judicious use of stimulants; and had the happiness of seeing their efforts ultimately attended with success. A party was immediately sent off to the ship with the intelligence, when we dispatched a party of four men in charge of Mr. Piers (Assistant Surgeon) which Mr. Ford (Carpenter) also accompanied, provided with a sledge and every requisite for his removal. On their reaching the tent, he had recovered the use of his faculties, but still suffered from the effects of exposure; he was, however, able to bear removal to the ship. This was carefully and safely effected under Mr. Piers' direction, and they arrived on board at 6 P.M. I then found the poor fellow much exhausted, suffering from the effects of reactionary fever and snow blindness; he was likewise extensively frost-bitten—from all which, he in due course recovered, but frequently told me he never after felt himself equal to the same amount of exertion. Such is one of the many incidents inseparable from Arctic sport, which all of us in a greater or less degree experienced during this and subsequent years; a hunting excursion not unfrequently entailing the necessity of walking for one's life.

A Snow Owl (*Strix Nyctea*) was seen in the evening for the first time, and pursued in vain, as we

ever, found it difficult to approach these watchful birds. Several Bears had been observed by the party returning from the shore, going northward; and two Deer had been also seen on the land for the first time, which we hailed as cheering news.

On Sunday morning the 11th, the shooting parties returned, bringing with them three Hares and twenty Ptarmigan, which were equally distributed. Our own efforts during the week having added somewhat to the number, we indulged in fresh game for the first time since the bounteous supply of Musk Oxen had ceased during the winter. In the evening, fresh parties were again dispatched to pursue the hunting for a week.

On the 12th, we had unusual good fortune in our captures. A Fox had been taken in one of the traps —a Bear had been pursued by us at an early hour in the morning, but escaped. A party of four men, however, who had gone on an excursion to the island, were more fortunate—two of them having separated, suddenly came on a Bear lying apparently asleep at the base of a large hummock, where he had but lately killed and eaten a Seal. They, at once, signalized to the others to close quickly, and had no sooner done so, than, roused from his lethargy, he boldly advanced towards them, until his course was arrested by a ball from the gun of the Serjeant of Marines, that struck him in the fore paw, when he fell, but immediately recovering himself started towards the eastern shore.

The others poured in their fire with effect, and followed up the chase for a considerable time, until the ferocious, but now affrighted animal, sank to rise no more. As the wounds were all in vital parts, this formidable monster had ceased to exist, ere they reached the spot where he lay. During the chase, Bruin, evidently suffering from one of his wounds, paused for a few moments, and with his teeth applied some of his fur, and afterwards snow to the bleeding orifice, which we found still adhering to it, when he fell—a strange instance of their instinctive feeling. Two of the party hastened on board with the intelligence, much elated at their success in killing the first Bear of the season. A sledge party was dispatched and returned in the evening with this great trophy.

We considered him to have been about three parts grown, was in length 6 feet 4 inches, circumference of body 4 feet 10 inches, and weighed five hundred weight. When the skin was removed, there was an entire absence of blubber, as might be expected at that time, as these animals during the winter or season of hypernation, are mainly dependent on the resources which the slow progressive consumption of their own fat can furnish them, until an advancing season enables them to procure their favourite food (Seals) in abundance. The laxity and great capacity of the thick reticular or cellular tissue beneath the skin, afforded ample evidence of its excellent adaptation as a deposit for the winter's supply of blubber. On examining

his stomach, there remained no longer any doubt that the season of fasting had passed, as it was quite distended with portions of the seal, but recently swallowed. The transit of a musket ball, however, through this organ, must have seriously deranged its movements and disturbed the process of digestion then actively going on within its coats. The slaughter of our first Bear, was considered an event of no small importance, and from the number seen at this early period of the season, we felt certain he would not be the last.

On this day, also, the temperature stood below zero for the last time, as it ever afterwards remained steadily above it throughout the season, and we were glad to see the effect of the sun's rays on the ice, as evidenced in the glassy appearance of the hummocks, and the sodden heavy character of the snow. The thaw was very perceptible about the ship, when anything was placed against its dark surface—a thermometer on one occasion so placed showed a temperature of 81°, when that in the shade was only 26° Fahrenheit. The ice appeared to be extensively cracked throughout, the cause of the loud reports frequently heard during the winter, from which we were disposed to predict an early break up.

A Fox caught on the 15th, afforded us still further proof of the advent of summer, for instead of its snow white coat of winter, it had assumed its partially brown summer garb. The snow had nearly dis-

appeared from the neighbouring lands, which again displayed their russet aspect, but in the ravines it remained more or less accumulated throughout the year, and in our excursions we were able to indulge in the luxury of a draught of snow water resulting from the thaw, when toiling weary and exhausted over the land. All our journeys were now performed at night, the sun having last set on the 10th, and it was a truly charming picture to see him coursing above the horizon at midnight, amid the dreary solitude which surrounded us. The dryness of the air on the 17th was such as to enable the men to perform a very important sanitary operation, that of airing bedding—the first time for a long period; but care should ever be taken that this practice is not had recourse to in a humid atmosphere, as moisture readily becomes deposited, and cannot fail to prove a source of much evil.

The hunting parties returned and brought on board no less than sixty-three Ptarmigan, which, with what we had shot during the week, gave us a good supply of these delicious birds.

The remains of an old Esquimaux encampment were likewise discovered on the western shore; so that we had now positive evidence of either side of the Strait, having been at one time visited by this migratory race.

CHAPTER XIII.

An unexpected Arrival—Casualties—Results of the Journey—A Bear killed—Strange Discovery—Despatch of a Party—Queen's Birthday—Elucidation of a Mystery—Gulls—A Bear—Discovery of Coal Formation—Return of Travelling Party and Incidents—Esquimaux—A Visit to them—Deer—Rain—Ducks—Return of Captain M^c^Clure—Results of Travelling—Intelligence received from Esquimaux—Incidents—Frost-bite—Bears—Return of Mr. Wynniatt's Party—Results—Necessity of combined Action—Character of Land—Incidents—Return of Lieutenant Cresswell's Party—Progress of Thaw—State of the Ice—Temperature and Weather.

At 7 A.M. on the morning of the 20th of May, a party was observed approaching the ship from the northward; and as the intelligence spread, it caused a great amount of anxiety amongst us, as we knew not who they might be, or of what news they might be the bearers. None of our travelling parties being yet due, our surprise was the greater. A fatigue party was at once dispatched to their assistance, and in the course of an hour, while eagerly

watching their movements, we could discern the individual forms of the men; they proved to be the party of Lieutenant Cresswell. About this time we could distinctly see there was an occupant on the sledge; on closer inspection, two were observed, and five in harness dragging it. They soon reached the ship when we became aware of the cause of their return, which the two invalids on the sledge had in a great degree prepared us for. We than learned that they had experienced, during the entire period of their absence, very unfavorable weather, which told severely on the men; that after rounding Point Russell, they proceeded along the north-western coast of Banks' Land for about eighty miles. Then two of the men who for some days had been more or less inefficient for duty, having had their feet and toes severely frost-bitten, which had subsequently become gangrenous, were utterly unable to work at the sledge, or even to walk. Under these circumstances, Lieutenant Cresswell considered it would be imprudent to advance further, and encamped for two days with a view of recruiting his men, and of ascertaining if any improvement would take place in the state of the invalids; but at the end of this period, matters still becoming worse, he determined on returning to the ship. This officer speaks in the highest terms of the patience, fortitude, and heroic endurance of these two brave sufferers, Joseph Facey, (sail-maker) and Ellis Griffiths, (A.B.,) who, when suffering intensely, still per-

sisted in doing work; and it was only when rendered utterly incapable of walking that they consented to be placed on the sledge. The toil and labour of dragging a heavy sledge with the additional weight of their two disabled messmates, therefore, devolved on the remainder of the party; well and nobly did they acquit themselves, and their care and attention to the invalids deserved the highest praise.

Their state on arrival was truly pitiable. Both were incapable of walking, and had to be carried on board. Facey had his feet and hands so severely frost-bitten as to be quite unable to use either; mortification had set in, in nearly all the toes and fingers. Portions of several were subsequently removed by amputation; and the feet were in such a state, that it was only with the greatest difficulty they were saved.* Griffiths, who was a most excellent man, was similarly, but less severely afflicted; and the removal of some of his toes became necessary. Both suffered much from low, irritative fever; and, from the effects of eating ice and snow ravenously, to allay the burning thirst then present, the mouth and entire of the œsophageal

* This excellent petty officer subsequently served with me in H.M.S. 'Cornwallis' (Captain Wellesley, C.B.), in the Baltic and West Indies. He never entirely recovered the use of his hands and feet, that were particularly influenced by the state of the weather—changes in which he could foretell with the greatest accuracy from the pain and uneasiness he experienced in them.

passage were excoriated and inflamed to a high degree. Some idea may, therefore, be formed of the intense suffering of these brave fellows, from whose lips a murmur never escaped during their trying return journey, where so little could be done to allay the pain and anguish they experienced. The patience and resignation which they subsequently manifested throughout a long course of treatment were such as to call forth the warmest expressions of my admiration. I ascertained that the coast of Banks' Land is formed of a series of cliffs, from 500 to 600 feet high, which, as I subsequently satisfied myself, were of sandstone formation, the trending of which was followed in a north-west direction, outside a line of stupendous ice packed along its base, until its extreme was reached, when a wide expanse of ice was seen, and the land was observed, from a considerable elevation, trending away to the south-west, leaving no doubt of Baring or Banks' Land being an island.

On the 21st, at 10.30 P.M., a large Bear was observed approaching the ship from the southward, following the course of our former visitor. A party was at once sent out to remain in concealment under a neighbouring hummock in the line of his march. Others were posted at the stern under cover of the bulwarks—so that we were determined he should not escape. He steadily advanced, doubtless astonished by the huge black mass before him, and sniffing the tempting odours that filled the air. He had reached within

ninety yards of the ship, when Captain M'Clure fired and wounded him in the back. He fell, but got again on his legs. A few of us then sallied forth to assail him more closely. Although the first wound appeared a mortal one, the monster writhed violently, sitting on his haunches, evidently paralysed; when a ball from my gun, passing through his head, laid him lifeless on the ice. No time was lost in removing his skin; and, as this was the largest Bear we had yet seen, it made an admirable specimen. The dimensions were, in length, 7 feet 9 inches, circumference of body 6 feet; his weight was estimated at 700 pounds, but would, of course, have been greater, with his proper casing of blubber, which was then just forming. As it was my custom to have the stomachs of all animals examined, in the hope of obtaining some trace of the object of our search, knowing that they would swallow anything when impelled by hunger, I directed that of this Bear to be opened in my presence. It was distended with water; and, on opening it, I discovered a few raisins, small pieces of pork fat cut irregularly, some tobacco leaves, and two pieces of common adhesive plaster; from their appearance, they had been but recently swallowed, and nothing further was found in the stomach or intestines. That he had evidently got them where civilized man either was or had been, there could exist no doubt; and I immediately made known the result of my examination to Captain M'Clure, who was equally astonished at this strange discovery.

Our first impressions were that our long-lost Consort, the 'Enterprize' might be to the southward—the direction in which the Bear had come; but the perfect state in which the articles were found, led me to express my opinion that they could not have been swallowed more than an hour or two, if even so long; it was, therefore, improbable that she should be within that distance. No further investigation was made into the matter; but it was at once determined to send a party along the south-east coast of Baring Island with twenty days' provisions, in the hope of elucidating this mystery, and of ascertaining if any of our countrymen were on the coast, that we might afford them timely aid and succour. An opinion was entertained that the articles thus discovered might have been thrown from the ship when drifting about the Strait, and then picked up by Bruin on the floe; but as we could not establish the fact, preparations were made for the early despatch of the party. Accordingly, on the 22nd, Lieutenant Cresswell, and the remnant of his former associates, with two fresh hands, were dispatched on this service. Captain M'Clure and myself accompanied him with a strong fatigue party, as far as the Island, when they procceded on their way.

The 24th of May being the anniversary of the birthday of our most Gracious Queen, the resources of the 'Investigator' were gladly taxed to do it honour; and an ensign was hoisted for the first time since leaving Behring's Strait. At noon a royal salute was fired

with our two guns, and a small mortar—the first, perhaps, that ever resounded within the precincts of the Polar Sea—this followed by three hearty cheers; and the evening was spent in hilarity by the ship's company, to whom an extra allowance of grog had been issued.

A party who had gone to the islands, in pursuit of two Bears reported to have been seen, returned towards mid-night, with a trophy more acceptable to us than any other success they could have met with—this was a preserved meat tin, one of those used to point out the sledge track. To this they were attracted by following a Bear's track, when they found it capsized, and containing a few articles similar to those found in the Bear's stomach on the 21st, with marks of where the animal had been tossing it about; thus was solved the mystery which had caused so much conjecture and uneasiness respecting our Consort. It was then too late to recall the party; but the journey would tend to make our search on either side of the Strait more complete.

Gulls were seen for the first time on the 27th, near the islands, which afforded an indication of water forming, perhaps, to the southward. Two Wolves were likewise seen coursing along from shore to shore across the Strait; a few of us went in pursuit, but their pace was too rapid to allow of our coming up with them, and we were consequently obliged to retrace our steps to the ship.

Early on the morning of the 28th, a Bear was observed near the ship by the Quarter-master, which we succeeded in killing, but it was smaller than either of the others. The number of these animals seen passing through this Strait, fully confirmed the statement of the Esquimaux, of its being the land of the White Bear.

About this time, during my excursions into the interior of Prince Albert's land, while traversing one of the numerous gorges in which it abounds, I observed several slaty, and dark clay formations on either side, more particularly at the angle of its windings, which were somewhat abrupt—the line of stratification inclining from the horizontal in some places to thirty-five degrees, the dip generally corresponding to that of the land. It was chiefly composed of dark laminated earth and shale; in the substance of the latter, and intervening between its layers, which were easily separated, thin laminæ of coal were discernible, and in some situations, lines of it were observed in the formation at some distance—recognized by its well known lustre. Sulphur in combination with iron was also found, and numerous specimens were obtained. Similar appearances I subsequently observed in other parts of this land; establishing, beyond doubt, the existence of coal, had we only had time and means to procure it.

On the 29th, Lieutenant Haswell and his party arrived from their journey along the south-eastern

coast, in good health — apparently more robust than when they started, for having met with game and driftwood in considerable quantity, they had fared much better than the parties that had gone to the northward, where neither could be procured.

They followed the coast line, which led them into several bays and one or two deep inlets, nearly all of which were explored. They presented in their outline the same general character as other lands in the Polar Sea. On the 14th of May, they reached their turning point in latitude 70° 45′ N. longitude 114° W. on the northern shore of a large inlet, which was subsequently called Prince Albert's Sound. Strange to narrate, ten days later Mr. Rae arrived on the southern coast of the same inlet, about forty miles from where our party had erected their cairn, after exploring the southern coast of Wollaston Land. How important it would have been, had these two parties been fated to meet, as intelligence of our position would have been received in England at the close of the year, on the return of Mr. Rae. Another proof, if any were wanting, to show the necessity of searching expeditions acting in concert, and with a previous knowledge of each other's plan of operations.

On their return, when about eight days journey—(at their rate of travelling) from the ship—and some six or seven miles distant from the coast, they were astonished on finding an Esquimaux encampment on the ice. The approach of the party was conducted

with due caution; but as the few natives who stood in front of the tents, manifested no signs of hostility, and displayed no weapons, both parties were soon in friendly communication; this could only be maintained by signs, as none of them knew the language. There were about eighteen people, a very old couple, and four men; the remainder of various ages of both sexes were then employed catching Seals in the cracks in the ice, which had partially opened out. Being unable to obtain any intelligence of consequence, our men presented them with a few uniform buttons, which they appeared to value highly, and in return received a few very well dressed seal skins. This was the principal event met with by this party in their journey. They gave a favourable report of the state of the ice, and the resources of the land. Pools of water were forming on the former, and on the latter they had seen twenty-four Reindeer, three Musk Oxen, and three animals which were reported to me to be Moosedeer (*Cervus Alces*). As this was the first instance, I believe, of the latter having been seen beyond the American coast, I inquired minutely respecting them from my informant, who was an intelligent young seaman, (Mark Griffiths), and his replies were, in every respect, quite satisfactory. He said that they were identical with the Moosedeer he had seen near the Buckland River, in Russian America, when serving in H.M.S. 'Herald,' and I have no reason whatever for questioning the truth of his statement.

On receiving intelligence of the proximity of the Esquimaux, Captain M'Clure determined to proceed with the interpreter to their encampment, with a view of obtaining all the information they could give; and at 6 P.M., on the morning of the same day, they started with a sledge and six men, provisioned for twelve days.

On the 31st, a small herd of Deer were observed crossing the Strait. A few of us went out to lay in wait for them, and having, after much trouble taken up a good position, as they were coming within range, the gong on board was incautiously struck at eleven o'clock as usual. No sooner did they hear the sound than they turned and fled precipitately to the shore from whence they had come, and thus destroyed all our hopes of obtaining so valuable a prize.

The first rain of the season fell at this time, but so light as to be barely perceptible. A flock of Pin-tailed Ducks (*Anas Caudacuta*) and also one of Snow Geese (*Anser Hyperboreus*) were seen going to the northward, joyously told us of the advent of summer. Although the weather in the early part of the month had been unusually cold and boisterous for the season, the last few days had in part compensated for its previous severity. Still there was no diminution in the thickness of the ice; the mean of several borings was found to be seven feet, but of a totally different character from its former flinty, adamantine hardness; and was then so disintegrated and softened by the permeation of water, as

to afford easy progress to the boring irons. A considerable quantity of snow fell throughout the month, but now disappeared under the influence of a daily increasing temperature, which ranged from 5° below to 47° above zero, with a mean at 18° 89′ F. Our exertions in the chase continued to be attended with a fair amount of success. Rock and Willow Grouse, a few Hares and Foxes were added to our stock, enabling us to issue one meal of fresh meat once a week. On the evening of the 5th of June, we were much surprised on observing the approach of Captain M'Clure and party from the southward; and we could scarcely have believed until assured of the fact, that the journey was accomplished in somewhat less than half the time taken in its performance by Lieutenant Haswell—this, however, appeared to answer no other purpose, than that of instituting a comparison at the expense of the men. In justice to the latter officer, it must be stated that from the leisurely mode of travelling adopted, he brought his men on board in a good state of health and efficiency for further service, if necessary. While the party of the former, were so worn out and exhausted, from the rapidity and harassing nature of the march, without sufficient rest, that one half were placed on the sick list on their return—(one of whom was severely frost-bitten)—and the remainder told me that they could not have continued the journey for six hours longer, at the same rate of travelling. This circumstance I adduce to show how little a

display of energy may avail, when unaccompanied by discretion and judgment, and to point out the necessity there exists of exercising both.

They met the tribe of Esquimaux a short distance to the northward of where they had been formerly seen, the latter having a day or two previous removed their tents to new fishing ground. These appeared simple and harmless, the most primitive of their race that had yet been met with, and occupied the most northern position of any seen hitherto or subsequently by us. They said that they belonged to the neighbouring land of Wollaston, and had never seen white men before, until visited by the party of Mr. Haswell, their only communication being with the neighbouring tribe further inland, with whom they trade—many of them inhabit the land to the eastward. They drew an outline of the coast, by desire, on paper being placed before them for the purpose. On reaching a certain point which they marked, they said that from it, they could see across the Strait, what they designated, the Great Land, meaning that of America, but that none of them had ever visited it. It was laid down quite in accordance with its outline on the chart, and on reaching that point where its continuity was interrupted, the draughtsman stopped, saying he had been no further along the coast. The pencil was then taken up by the wife of the chief, a woman who evinced great quickness and intelligence; and in a very determined, dashing manner, she formed

the coast line of a deep bay—thus filling up the blank then existing on the chart, between Wollaston and Victoria Lands, and establishing their continuity; the accuracy of which was subsequently fully confirmed by the journey of Mr. Rae along that coast. She dropped the pencil on reaching her farthest point of travel, where she said, there were high mountains, and many Esquimaux from whom the tribe received copper in exchange for skins, the metal generally fashioned into implements of war and the chase. Some of our men saw lumps of copper ore lying about the huts, a few of which they picked up and brought on board. It was certainly the purest ore I ever saw, and the natives appeared to think it strange we should think it worth carrying so far. This circumstance was not made known to Captain M'Clure by the men, until some time after their departure. We, consequently, assumed, it came from the mountains of Victoria Land of which they spoke. It is to be regretted that the hurried nature of the visit, which barely amounted to half-an-hour, did not allow fuller enquiry respecting the source from whence it was procured, the character of the people, and of the land they inhabited. Their knives, arrows, needles, and other cutting and piercing instruments were all made of copper—several specimens of which were obtained—fashioned into shape entirely by hammering. No igneous power being had recourse to, it was surprising to see the admirable nature of the work,

considering the means by which it was effected, and the form reflected great credit on their ingenuity and excellence in the adaptation of design.

Our party made them several presents, and much astonished at such liberality, they wished to know what they should give in return, but on being told they were gifts from our chief, they at once presented several copper instruments and skins. They were quite devoid of all that mercenary spirit, and those strong thieving and other propensities so universal amongst the Esquimaux on the American coast—the result of their contact with civilized man—being a few of the evils which invariably follow his footsteps over the world, when antagonized by no controlling power. They were quite ignorant that there existed any other people differing from themselves in manners and customs; and asked our party where they came from, and where their hunting ground was situated. Their entire occupation consisted in hunting and fishing, migrating to and fro along this coast, fixing their temporary abode wherever success was most likely to attend their efforts; and appeared to be influenced by no other feeling than the acquisition of what was essential to their sustenance from one season to another, to afford them sufficient food and raiment for sustaining life and protecting them from the cold. They manifested great consternation on seeing one of the guns discharged to gratify their curiosity; having never seen or heard

anything of the kind before. They were invited to visit the ship, and as their kindness and simplicity excited a great degree of interest, a gun was offered to each of the men who would visit us, and other presents to the women. They promised to come, but perhaps the state of the ice subsequently, prevented them. It is quite deplorable to think of so fine a race as they were represented to be, being so utterly neglected, and existing in a state of such abject heathenism; more particularly when we find the southern boundary of their country within twenty-five miles of the northern limit of the extensive territories of that Company (Hudson's Bay) who obtained and still hold a charter granted to them, that they might be the means of promoting commerce and advancing civilization amongst these wild but interesting people. How far they have succeeded in the former, they probably can tell, but how they have neglected the latter, we have seen.

One of the men of this party, Cornelius Hewlett, was brought on board in a very deplorable state, having been frost-bitten in both feet on the night of his departure from the ship, although the temperature was then only two degrees below freezing point. This occurred from his feet becoming benumbed in going through the several pools of water that had formed on the floe; and the canvas boots which he wore being in the first instance rather small, were contracted still more by the wet, impeding free circulation in his

feet by the pressure. On removing them the following morning, when they encamped, the toes of both feet were quite rigid and frost-bitten. To restore warmth to the parts was, of course, the first object, but instead of having recourse to ordinary friction with the hand, directions were most injudiciously given to rub them with concentrated spirits; this produced such violent local reaction, that inflammation set in of such an acute, unhealthy character, mortification ensued. On his arriving on board, I found the toes of the right foot in an advanced state of gangrene, which entailed the necessity of their removal by amputation, together with the great and a portion of the second toe of the other foot, and it was with the utmost difficulty that the three remaining toes were saved. This occurrence was the more to be regretted, for had judicious means been used in the first instance, and ordinary care afterwards, such a result would not have happened. The poor fellow still dragged at the sledge as long as he was able, although the pain he was suffering must have been agonizing; and when at last obliged to forego labour, he had to walk through pools of freezing water and thawing snow, as it was not considered compatible with the rapidity of the journey, that he should be carried on the sledge—hence the sad results I have mentioned.

Several Bears were daily seen making their way to the northward, and were pursued whenever there

appeared any chance of success, by parties of three or four persons; but whether terrified by our appearance, or influenced by strong instinctive feelings of self-preservation, they never manifested any desire for attack, and seldom could we ever bring them within range of our guns. Three approached the ship quite close on the evening of the 5th, amid the excitement incidental to the unexpected arrival of the travelling party; after taking a survey they leisurely walked off, when they were pursued by a party of three—by whom one or two of them were wounded—who followed their blood marks on the snow for a considerable distance without success.

Early on the morning of the 7th, the party of Mr. Wynniatt made their appearance from the northward, when a fatigue party was sent out to their assistance. We soon had the pleasure of receiving them on board with three cheers, looking well and in good health after their journey, the last few days of which were rendered unusually harassing from the progress of thaw, and the accumulation of water on the ice. Mr. Wynniatt after rounding Point Peel, found the coast line to trend to the south-east, into a deep inlet, the entrance to which he crossed, still following the coast which then took a north-easterly direction; this led him into a bay of considerable extent, from which the outline of the land still trended to the east-north-east, in the direction of Cape Walker, until he reached his furthest point on the 24th of May.

Strange to narrate, on the day previous (23rd) a party under Lieutenant Osborn from Captain Austin's expedition, reached within about sixty miles of Mr. Wynniatt's turning point. How important, therefore, it would have been had these officers effected a junction—which they could have done with the greatest ease had they been aware of each other's contiguity. Thus was another chance lost of completing the chain of communication between the eastern and western Expeditions. This is the fourth instance of a similar kind I have narrated, where we have seen parties roaming over the desolate Polar wilds, with a common object in view, reaching within one or two days' travelling of each other, and from ignorance of each others intended operations, and the non-establishment of any preconcerted plan for forming a rendezvous—where if they did not happen to meet, they would at least have left information for each other's guidance—their labours were entirely unproductive. The vital importance of such Expeditions being aware of the relative position of each other, is too obvious to call for further observation. It would not only have rendered the search in every respect more perfect, but would have kept open a communication with England; thereby conveying intelligence of our proceedings, that could not but have been acceptable to a country, which had made, and was making, the most noble and unparalleled efforts in search of her ill-fated sons.

Mr. Wynniatt in his journey discovered no trace of the great object of our search, nor any evidence of man having ever been on the coast. After rounding Point Peel, he informed me the character of the land became bold and rocky—high and precipitous cliffs were met with, of limestone formation; but as he advanced to the eastward, it became low and flat. The ice in Barrow's Strait was chiefly of that year's formation, but in the bays or inlets there were numerous old, heavy floes of stupendous size, which appeared as if never to have moved. The opinion has been advanced by some, that a Strait exists between Points Lock and Willoughby; this I am firmly of opinion is nothing more than an inlet, for it having been my ill fortune to spend my last winter in the ice not far from this locality, drifting in the pack from Melville Islands to near Cape Cockburn, in H.M. Ships 'Resolute' and 'Intrepid,' I found no indication whatever of there having been a *set* of the ice in that direction, as the course of our drift proved, although strong northerly and north-westerly winds prevailed. The assumption, therefore, that the coast line is not there continuous, is I think erroneous, and unsupported by one particle of evidence. This land, presenting a northern aspect, and had a more bleak and desolute appearance than that on either side of the Prince of Wales' Strait; it was still snow-covered with no appearance of thaw, and unvisited by any of the birds or animals which our travellers so plentifully

met with on re-entering the Strait on their return. They saw at various times on the journey no less than thirteen Bears, but as they could not make them in any way available for use, under the circumstances, they were allowed to proceed on their way unmolested.

The shooting parties returned on the evening of the 7th, bringing with them six Ducks, thirteen Hares, twenty-two Ptarmigan, some Golden Plover, (*Charadrius Pluvialis*) and a few Sanderlings, (*Calidris Arenaria*). They reported that the thaw was rapidly progressing, that the ravines and valleys were full of running water, and that the pools collected on the sea-ice were in some places nearly waist deep. The appearance of the men on coming on board bore ample testimony to the exertion they had undergone in dragging the sledge. The boat which was left on the eastern shore in March for the use of the travelling parties being no longer required, all our available men were dispatched early on the morning of the 9th, to bring it on board. This was a work no less difficult than harrassing, from the labour required to drag it through deep pools of water and sludge. The party shot several Ducks, numerous flocks of which they saw. On receipt of this intelligence, I proceeded towards midnight with four companions, in the hope of adding to our stock of game, and perhaps of meeting our absent party from the southward, whose return was then due. We were enabled fully to confirm all the reports that had reached us with respect to the state of the

ice. It was nearly everywhere covered with pools of water, through some of which we waded, and found them nearly waist deep; the cracks were very numerous, conveying the pleasing evidence, that with the presence of the other forces at work for its destruction, a break-up of the ice might be expected at an early period. We had a good night's sport, and considerably enriched our larder with Ducks and Gulls—the latter had collected in considerable numbers on the edges of the rocks, there were three distinct species (*Larus Glaucus, Larus Argentatus, Larus Tridactylus*). On ascending the summit of the island, we could discern with the aid of the telescope, a small dark moving mass, far distant on the ice, which left no doubt on our minds of its being the gallant little band, whose return we were anxiously looking for.

We immediately retraced our steps to the ship, which we reached about 5 A.M. with the intelligence, when a party was sent out to meet and assist them. About 8 A.M. we had the pleasure of welcoming them on board, all more or less fagged from the hard work they had lately gone through, owing to the state of the ice; and a few of them were subsequently placed on the sick list. Lieutenant Cresswell informed us that they proceeded along the south-western coast of Baring Island, as far as the entrance of the Strait, then westward along its southern coast, rounded Nelson's Head, and finally reached Cape Lambton, from whence they retraced their steps. Near the latter, and

about fifty yards from the beach, they discovered a small fresh-water lake, with driftwood strewn along its edge, having every appearance of its being brought there by tidal influence, although far removed from the usual line of high-water mark, which barely exceeds a rise and fall of two feet. This drift is difficult of explanation, unless caused by the strong westerly winds which generally prevail.

Their report of the state of the ice, and the progress of thaw, was very satisfactory; one crack or opening was met with near Nelson's Head, thirty feet broad, that promised to arrest their progress, until one of Halkett's boats, with which they were provided, enabled them to convey the sledge and all its contents in successive trips across in safety, without loss or casualty of any kind—another instance of the great utility of these admirable contrivances on this kind of service.

All our parties having arrived in safety on board, it was not considered judicious, from the state of the ice, to dispatch shooting parties again to the land, and but little remained to be done to render us ready to take advantage of an early break up. As it was determined to leave the whale boat then at the island, with the depôt we had formed there, some carpenters went down for three days, to put it in a state of thorough efficiency; and to rebuild the cairn which had partially fallen during the winter. Another detachment, under Mr. Wynniatt, was dispatched to the western shore for the tent, equipage, &c., left

there by the last shooting party. On the 12th, I made my last visit to the island with Mr. Court, when some observations were completed with the theodolite, and we returned in the evening to the ship. They met with numerous adventurous Bear and Seal hunts. Few incidents of consequence occurred for the remainder of the month. We could not leave the ship, owing to the state of the ice. The men were employed in making the necessary preparations for sea in sails, rigging, &c., and we watched with daily increasing interest and anxiety the progress of that thaw which was ultimately to liberate us from our icy prison.

The summer solstice came, when the sun again commenced his southerly course; but it is some time after his departure, before we are able to take advantage of what his power has effected—generally not until he has made his appearance once more in the region of the Antarctic zone. Thus we remained in listless inactivity, tantalized by the sight of numerous flocks of Ducks and Geese flying to and fro to those secluded retreats where their eggs are deposited, and young brought forth safe from all daring intruders; but cheered by the slow, yet certain destructive power that was being wrought on the ice around us. Many familiar pinnacles and hummocks that for months we had been accustomed to gaze on, gradually diminished, ceased to be familiar, and ultimately faded from our view.

Each officer and man was ordered to have a knapsack containing a change of warm clothing, to meet any sudden emergency. All were, therefore, in readiness for a hasty departure, should untoward circumstances render it necessary.

On the 30th, the ice had entirely thawed from the ship's side, and she floated in a dock of nature's own formation. In the evening, the line of the tide guage was suddenly drawn out several feet, which was attributable to some slight movement in the ice; and we hailed it with pleasure as the first, although slight, motion that had yet been observed.

The weather, throughout the entire month of June, was very favourable for breaking up the ice. The temperature ranged from 17° to 53°F. The latter proved, the highest registered during the summer; it was on the 8th, and the mean of the month was 36·08. Strong winds prevailed from west and south-west, and for the few last days of the month, from the north-east, which exercised a powerful effect in setting the ice in motion at an earlier period than we subsequently experienced elsewhere.

CHAPTER XIV.

State of the Ice—Mosquitoes—Water—Ship liberated—Incidents—Drifting—The Islands—Our Floe—Make Sail—Position and Difficulties—Critical Situation of Ship—Reach Point Armstrong—Reindeer—Drifting to the Northward—Effects of Gunpowder on Ice—Point Lady Ross—A Fox—Musk Oxen—Weather and Temperature—August—Incidents—Rain—Drifting—Currents—Aspect to the Northward—Position on the 10th—Supposed appearance of Land—Open Water—Make Sail—Fog—Its Difficulties—Ship aground—Her Safety—Strange Coincidence—Aspect of the Coast—Conical Hills—Their Formation—Blasting with Gunpowder—Its Effects—Weather—State of the Ice to the Northward—Run off Shore to South-West—Spanker Boom carried away—A Gale—Drifting—Unpleasant Position and Prospects.

THE advent of July was joyfully welcomed, and still found us in a state of anxious preparation for the great event, to which we all ardently looked forward—our liberation—as we continued to observe, whatever could foretell, or establish the slightest movement in the ice, which we found had decreased in thickness, 2 feet 2½ inches during the previous

month. Numerous holes had been formed in its substance to the water beneath, whose increasing extent was eagerly watched and reported on, as the process of disintegration rapidly advanced.

A Parhelion was visible at 10 P.M., on the 3rd; but much less brilliant than this beautiful phenomenon, as seen in the winter. On the 7th, the ice-mate made a cheering report from the crows-nest—a space of open water was observed extending along the eastern shore to the northward for a couple of miles; the first blue water yet seen. On the same day, the visit of a few Mosquitoes, caused a lively degree of interest; and we submitted to their assault with very different feelings than they would have created under other circumstances.

From this period each successive day revealed some change in the aspect of the ice, which was evidently doomed to early destruction; the cracks to the southward having opened out considerably, and connected themselves with the water formed along either shore. On the 13th, that between our position and the islands, was observed in motion, and open water could be seen extending from shore to shore; while to the southward of the island, nothing but loose sailing ice could be seen. To the northward it did not present the same pleasing prospect, as water could only be traced along the shore of Prince Albert's Land to a point of the coast which bears my name. This is a prominent feature in this Strait, some

eleven or twelve miles distant, to which our eyes had been often directed during the long period of our imprisonment, in the hope fondly indulged in, of passing it one day or other on our homeward route.

There was then no doubt that the Strait was navigable everywhere to the southward of our position; and we anxiously waited for each successive tide to break up those barriers by which we were still retained. Nor were we kept much longer in bondage. At an early hour on the morning of the 14th, the ice was observed in motion; but until 10.30 we were still stationary as far as our land-marks enabled us to determine; then the ice under our stern became detached from the floe, and was borne a few feet to the northward, leaving the ship in a lane of water, which opened out into the large expanse to the southward. In the probability of our being separated from our well tried, trusty floe, anchors were laid out, by means of which we renewed the bond of union; then threatened with rupture; but under circumstances so widely different from that eventful night in September, when our safety depended entirely on our remaining attached, in which state we continued throughout all our perilous wanderings.

The anchors were not laid out too soon, but proved a good precautionary measure, for at 2·40 P.M. the ice separated and broke up so gently about us, that the first intimation we had of this great fact, was

seeing the ship floating in and surrounded once more by her own element—thus testifying, that the long wished for period of liberation had then arrived. We were slowly borne to the south-east in company with our floe, with scarcely a breath of air.

So sudden was our departure, that some of our men who had gone for their washed clothes, then drying on a neighbouring floe, had not time to regain the ship; and myself with one or two others, only a few yards distant, with difficulty got on board, before she moved off. On the ice, we left numerous relics of our winter's sojourn—the accumulation of many strange materials, which may, perhaps, have been borne to other distant regions, to record our visit to the Polar Sea, and testify that civilized man had been a resident there. One could not but view these objects with mingled feelings, associated as they were with many interesting incidents of the past; they contrasted in a marked degree with the purity of that element on which they were then being borne away. Though we greatly rejoiced at our early deliverance, we could not indulge in the hope of making much northerly advance for some time. No water could be seen in the pack, except that extending for some distance along either shore; on the eastern side it was observed extending as far to the northward as Point Armstrong, into which we could easily have got, although the wind was at the time light; but it was

considered more judicious to allow the ship to drift in the loose ice—for what reason, I and many others were at a loss to discover. In the remainder of this and the following day, we were drifted alternately to north-east and south-west, the latter much predominating, until we again approached the Princess Royal Islands, when we became beset by a heavy piece of old floe-ice getting under our stern and starboard quarter. Our best efforts, until midnight, were required to free us from this troublesome visitor, obliging us to cast off from our floe, to allow it more space to pass on its northerly course. On the 16th, we regained our old floe, and with it we were borne to and fro, under the influence of wind and tide; but fortunately were not then subject to any heavy pressure.

On the 17th, we were drifted to within 600 yards of the larger island, whose bold, precipitous eastern front frowned on us, by no means auspiciously; indeed we could not behold our advance towards it, without entertaining the most serious apprehensions. Fortunately, we were presently borne to the southward, until our course was arrested about a mile distant from its southern extreme. A few hours afterwards, we were again carried in the same direction; as if destined to describe circles perpetually around these islands, now so celebrated in the history of our voyage—under existing circumstances, a closer acquaintance with which would have been far

from desirable. It was, therefore, determined to take advantage of a lane of open water, which extended for a short distance to the southward, and with a fair wind to make sail, and run as far clear of the danger which threatened us, as possible. For this purpose, we were at last obliged to part from our old and faithful icy friend, which had borne us in safety through so many trying scenes and perils.

Accordingly, at 11 A.M., we cast off from it, and the joyful pipe of "All hands make sail," was heard for the first time for the last ten months. Right cheerfully was it responded to, and we soon saw with delight our old ship once more under canvass, making the best of her way through loose ice, backing and filling alternately, to clear numerous opposing obstacles until 1 P.M., when our further progress became so impeded, that we were obliged to secure the ship to a large floe, and continued drifting again as before.

Our position at this time differed but little from that in which we were so helplessly placed at the close of the previous season, with one important difference—the navigable season was now commencing, whereas it was then drawing to a close. We were, however, from day to day threatened by the same dangers, calling for similar energy to avert, as I have already described. The presence of strong north-easterly winds had brought the old floe ice down from the northward, and from its accumulation about us, the ship's further progress to the southward, had

from some cause become arrested—perhaps the ice pressing through Dolphin and Union Strait to the westward had blocked up the outlet of the Strait. We were on the 18th, in a position where the floes on either side met about ten yards astern, forming the apex of a triangle in which we were placed, with a most formidable looking one ahead; and in this awkward situation we were drifted to and fro—the ice grinding and crushing against us—not knowing the moment when the old floes might close and effect our destruction.

Early on the morning of the 19th, the colossal floe to which we were attached, became rent in five different places—owing to the pressure from others in proximity—which obliged us at once to cast off, and by means of ice anchors haul the ship into a sort of dock, formed by an indentation in its edge. This was not accomplished without considerable labour, being forced to have recourse to the saws, to remove some obstructing pieces that lay in our way. On the 20th, we were enabled to make sail for a couple of miles through an open space of water which led us to the northward of the islands, and reached the edge of a large floe, into an indentation in which the ship was warped and again secured. The ice was evidently then less obstructed in its southerly progress, as we saw it during the day setting rapidly down in that direction; and a considerable space of open water was observed to the northward on the

evening of the 21st, continuous with that on the eastern shore of which I have before spoken. It was, therefore, quite tantalizing to view such an opening, without being able to reach it, in which we would then have been, had we entered that off the eastern shore, when first liberated. Our position had again become so critical, that a repetition of the measures necessary for a sudden abandonment of the ship was very properly adopted. The floe, on the outer edge of which we were secured, had from the effects of pressure become completely turned round, so as to place us between it and the shore, and we found ourselves distant from the latter not more than 600 yards, so that any pressure acting on its distant edge must have brought us in still closer proximity, if not thrown us at once on the beach, as we lay within the influence of the slightest exercise of its power. Thus threatened by ice on one hand and the shore on the other, we were rejoiced towards the close of day, when a slight change taking place enabled us to escape from our position and warp into one of greater safety. Up to this period, we had never lost sight of our winter floe since we parted company, the dark objects on its summit rendering it easily recognized; but its goodly proportions were much altered, it having been nipped in twain by pressure—consequently our timely departure from it afforded good grounds for congratulation.

On the 23rd, we were still closely beset, when

towards evening the huge floe to which we were attached took the ground, from the effects of the concussion, and by its own weight it was in an instant split into two parts, which rendered our situation dangerous in the extreme. We remained attached to the fragment that had grounded, but observing the danger with which we were threatened by the approach of the other, no time was lost in disengaging ourselves. We had barely succeeded, when that which was in motion came up, and owing to the light air then present, struck the ship quietly astern, and gave her a little headway. There was at this time no opposing obstacle immediately ahead, otherwise she would have been inevitably nipped. The ice then began to open about us most wonderfully, which enabled us to warp clear of danger, and as the water increased, the boats were lowered to tow for the first time that season. A fresh breeze soon afterwards springing up, enabled us to make sail, clear all opposing difficulties, and at midnight we had reached the long desired open water. We found ourselves, as we hoped, for ever clear of the islands, which from their central position in the Strait, act an important part, not only in influencing the disposition of the ice, but in increasing the dangers which surround a ship when helplessly beset drifting in the pack. The day was, to us, one of marked Providential goodness, we having escaped almost miraculously from impending dangers, and been borne into our long wished for haven, with appearances auspicious for

our northerly advance. The temperature of air ranged from 40° to 52°, that of water from 32° to 36°; specific gravity 1014.

On the morning of the 24th, the water enabled us to get close up to Point Armstrong, as far as we could then advance. Driftwood having been observed strewn in abundance along the beach, in the vicinity of this part of the coast, a boat was sent with the carpenter to procure some of it, and soon returned heavily laden; several pieces of which had such a fresh appearance that Mr. Ford supposed it could not have been more than a few years from its native forest. The view from the mast-head revealed to us, the ice still unbroken and attached to either shore—the Point with its projecting spit apparently presenting an obstacle to its setting to the southward—and we continued tacking off the pack-edge, enveloped in a dense fog for the greater part of the day. Our difficulties were at this time considerably increased, and our movements embarrassed by the great ever-varying state of the compasses.

On the 25th, the ice closed on us from the southward, when we were again beset, and sustained some trifling pressure, but nothing to cause any serious apprehension. Our progress was then again depending on the chances of the drift, and we were gratified to find on the following day, the 26th, that it had carried us to the northward of this dreaded Point Armstrong, which then bore south-east. In the evening

there we observed on it a fine herd of Reindeer, whose presence imparted a very novel and pleasing feature to the dreary solitude of the land. Our distance, and the intervention of loose ice, precluded the possibility of their becoming our prey, much and ardently as we desired it. On the 28th, we had drifted so far to the northward, that the islands were lost to view, never we hoped to be seen again. As we were then silently, but steadily borne onward towards the outlet of the Strait, we anxiously calculated the chances there then existed of our effecting a passage through them—thus realizing all our long cherished hopes. The wind from the southward still continuing, packed the ice heavily to the northward, where no open water could yet be seen. As we knew not how soon an opportunity would occur when gunpowder might aid or facilitate our advance, Captain M'Clure resolved to test its efficacy on a floe of last year's ice, about four feet thick, then in our immediate vicinity. A hole was accordingly bored until the water was reached, and a small cask containing forty-seven pounds of powder was placed beneath the floe, and ignited by means of Pickford's fuse. The explosion which took place eleven minutes after the fuse was ignited, caused the ejection of a cloud of broken ice and water to an elevation of eighty or one hundred feet in the air, produced an opening in the ice twenty-five feet in diameter, from whence fissures radiated in different directions from sixty to two hundred feet. This ex-

periment may be taken as a fair instance of the effects of a given charge of gunpowder on ice of a certain character under the most favorable circumstances. The shock of the explosion was felt on board, which caused our bells to ring merrily, without a pull.

The steadiness of our northerly drift, left no doubt of our being under the influence of currents in addition to that of wind and tide, which quite antagonized the power of the latter on its return, and prevented our being carried with it to the southward. An opposite effect, however, was experienced on the western side of the Strait.

On the 30th, we were subject to pressure of various degrees of force. The floe to which we were attached was rent in several pieces and packed, burying beneath it the anchors, which required considerable labour in recovering. At one time, the ice was in great commotion, setting with the tide to the northward at the rate of two knots an hour, bearing us with it; the loose pieces packing and crumbling on each other at times as high as our quarter-boats; but, owing to its altered character—still undergoing the process of thaw—and being generally loose, we passed harmlessly through it all. The ominous sounds of conflict forcibly reminded us of last winter's adventures; but how changed was the sound, now comparatively subdued and soft, when contrasted with the hard, loud, grinding noise which fell so mournfully on the ear during that eventful period of our

wanderings. As we approached Point Lady Ross, I observed the escarpment of the land become generally more abrupt, with dark veins of horizontal stratification, similar to the dark clay and shale formation of the coal measures, as observed elsewhere on this land to the southward. The coast line was much intersected by numerous deep gorges, forming the beds of the mountain torrents during the season of thaw.

The tide on the evening of the 30th, set the ice again in motion as before, and with similar results. We were astonished to see, in the height of its commotion a little Fox crossing the Strait close to the ship, bounding most adroitly over the masses of crumbling ice which came in its path; and we had the satisfaction of seeing him reach the shore in safety. We were also favoured with the sight of two Musk Oxen, wandering slowly over the land at different periods of the day; but there was no possibility of our making an effort to reach them, otherwise any risk would have been cheerfully encountered for the sake of procuring such a prize. There was something strikingly grand and novel in the sight of these formidable-looking creatures roaming leisurely along, proud monarchs of these dreary solitudes.

The month which had just then closed, we considered to have been highly favourable to our prospects, notwithstanding what we had already encountered. The temperature had never fallen below freezing point, having ranged from 32° to 52°, with a daily mean of

37° 54′. That of sea-water was from 31° to 36°, but varied much in density at different times from 1.004 to 1.021—which may be attributable to temperature and the tides, bringing up water of a more saline character at certain periods. Strong winds very generally prevailed, and gales were frequent, alternating with considerable regularity from north-east to south-west, with a mean force of 3.0. Rain fell occasionally in light showers, and heavy fogs were often present.

Another month came, the second August, we had spent within the Arctic Circle, the only one that may be said to intervene between summer and the commencement of winter; and on our progress would then depend whether another winter was to be spent in these regions. That August, and the beginning of September are the best for navigating, or rather attempting to navigate the Polar Sea, there can exist no doubt, as it is a fact long established by experience; and I need not call to the remembrance of my shipmates, the fond hopes which were then entertained of the great things we expected to achieve before the return of another month.

The wind still blew fresh from south-west, and we continued drifting in the midst of a chaotic mass of densely packed ice; this, at times, would slacken a little, so as to enable us to warp for a few yards; and on the 1st, we were able, by this means, to advance upwards of a mile; this, with our drift, gave us, at

least, six miles of northing, which we thought a fine day's progress. We had also increased our distance from the shore, as well as from a shoal, that extended out for some way from a low point; a nearer acquaintance with which we were most anxious to avoid.

The 2nd, was the anniversary of the day when we first encountered the ice—what experience of the element we had gained in twelve months these pages will amply testify; for there was no form or aspect, which it was possible for it to assume, that we had not seen, and hitherto successfully encountered. The day was remarkable, also, from our having had the heaviest fall of rain since crossing the circle, or, indeed, I may say, since we passed the Line, as it fell almost uninterruptedly during the fore-noon, and at frequent intervals afterwards. It was gladly welcomed, as we knew it would have a good disintegrating effect on the ice, in addition to its general refreshing influence. Towards evening the wind changed to the northward, when it became clear, cold, and breezy; but for the remainder of the day, we failed to observe any change in the state of the ice, though we expected to see it open with this favourable change of wind. An effort was made to reach a floe about fifty yards a-head, by forcing the ship through loose ice, with the aid of canvas and warping; but after several hours exertion we failed to move her an inch. We were again tantalized by the sight of a Musk Ox, and a herd of eight Reindeer on the land,

which we supposed were those formerly seen on Point Armstrong, that had followed us along the coast—indeed, some of our people went so far as to say, that they could recognise a stately old Buck, that had formerly attracted their particular attention as the patriarch of the herd. These animals are always seen grazing—the extreme scantiness of the pasturage, does not allow of their wasting much time in a state of repose.

Our advance for the next few days was very trifling; nothing occurred to cheer our hopes. Our patience was severely tested, as we anxiously watched our landmarks, to indicate the slightest movement in the ice or ship; and our eyes in vain wandered over the interminable, glistening field to the northward, for the least appearance of its opening out to favour our onward progress.

On the 5th, the wind changed to south-west, but towards evening became variable, and ultimately settled into its old quarter, north-east. Our landmarks then told us that we had drifted a little to the southward; and as the ice became more open, and a few pools of water here and there discernible, we knew not how much further altered might become its aspect before the lapse of another four-and-twenty hours. On the following day, open water was seen along the eastern shore, which we could not reach—of what depth, it was impossible to say—otherwise there was nothing but ice to be seen to the northward.

On the 7th, a strong south-westerly wind blew, alternating with partial calms and variables. It was remarkable that at one period of the day, 11 A.M., the lower stratum of air blew from the north, when the vane at the mast-head denoted a fresh south-wester, while almost midway in the maintop, it was perfectly calm. The north-easterly wind, however, ultimately prevailed, it evidently being the colder of the two.

In the morning, we had at first drifted to the westward near the centre of the Strait, but were again borne a little to the north-east. In the afternoon, the ship was warped after much toil through some pieces of heavy ice, which had separated sufficiently to allow of our reaching a large floe piece about forty yards distant, to which she was secured after eight hours' exertion. In this short progress, however, we encountered numerous obstacles, one of which, with a projecting tongue beneath the surface of considerable extent, impeded our advance, and obliged us to have recourse to gunpowder for its destruction; this it completely effected, so as to allow of its easy removal by poles. It is in such cases that this powerful agent is of much service in navigation, by destroying the barriers to a ship's advance, where there is space sufficient to allow of the fragments being removed out of the way after the explosion.

We had long believed our northerly progress had been much under the influence of currents, the existence of which we had established from the

result of repeated observations; and we found a current setting north from 20° to 70° east, at the rate of nearly three miles a day. On the 8th, we hailed the advent of spring tides as likely to effect much in our favour, and relieve the tedious, wearisome state of suspense in which we had so long existed. We trust to their influence to take us clear of the Strait, as we certainly increased our progress northward. On the following day, the 9th, the northern extremes of either shore could be distinctly seen from the mast-head, and Investigator and Parry Sounds lay before us, could we only overcome the barrier that intervened. The season of perpetual daylight was thus leaving us, the sun ceased to be visible at 10.30 above the western hills, but with an ice horizon his setting, would of course, have been considerably later, near midnight. The weather at this time was delightfully clear and serene, and we were favoured with many very beautiful refractive phenomena from time to time. They tended to relieve, in some degree, a painful state of suspense and inactivity, as we gladly seized on anything that could afford variety to the surrounding aspect. That we were still slowly drifting there could exist no doubt, as our daily observations proved, having on the 10th found ourselves in lat. 73° 10′ N., long. 115° 53′ W. from whence the high land above Point Russell could be discerned, and towards which our eyes were ever eagerly bent, as our minds dwelt on the pleasing

thought of soon passing to the northward of this extreme; all manifested a like anxiety for the attainment of this much desired object.

On the 11th, we found, at noon, that we had drifted a mile in the previous twenty-four hours, and we observed that the ice had opened out considerably to the southward, but not in our immediate vicinity. It became generally loose, and in the event of a fresh breeze, would, we hoped, open out a good space of sea. This, however, did not come; and our position on the following day brought with it no change, except a slight increase to our northerly drift. Some of the ultra-sanguine amongst us, fancied that they could discern Melville Island from the crow's-nest; but, in consequence of the distance, this was considered by no means probable. The highly refractive state of the atmosphere, for the few previous days might, however, from its action on vapour in that direction, have given it an appearance of land. This famed locality was a subject of such frequent conversation, that it became easy for a vivid fancy to pourtray its outline.

On the 13th, the wind still continued from the north-east, with the ice everywhere around us, apparently loose, and more in motion than it had been for some days. A large expanse of water could be seen to the southward, extending along the eastern shore a considerable way northward of our position. To reach it would then have been a great object,

but the state of the ice did not permit our making the attempt with the certainty of success. As appearances justified our expectations, that the water would soon make up to the ship, our prospects looked brighter than they had done for some days. A heavy fog setting in towards evening enveloped us in its chilling mantle, and prevented further observation of the changes then going on. We still continued slowly drifting; at this time we could observe young ice forming nightly in the pools of water on the floe. Towards noon on the 14th, the fog having cleared away, we found ourselves in lat. 73° 14′ 19″ N., long. 115° 32′ 30″ W.—the highest position we were destined to attain, about half a mile distant from open water, loose sailing ice intervening, with a light air from the north-east. The rudder was at once shipped, we cast off from the floe, made all plain sail, by the aid of which, together with warping, we reached the in-shore water in a couple of hours. We continued our advance tacking between the pack and the shore, in soundings varying from fifty to three and a half fathoms, until about 5 P.M., when the fog again made its appearance, adding as it ever does to the difficulties and danger of ice navigation. At 9 P.M. it had become so dense that we could discern objects but a very short way from the ship. The land had ceased to be visible, and heavy floe ice setting down occasionally arrested our progress; and coming heavily in contact with it, we sustained some severe shocks.

Notwithstanding the difficulties by which we were thus surrounded, we still continued under weigh, unwilling to lose any chance that might favour our onward progress, until 11 P.M., when off Point Lady Ross on the in-shore tack, the ship suddenly shot from no soundings at twenty fathoms, into three and three-quarters at the next cast of the lead, and the fog at the moment clearing off a little, displayed to our astonished vision the barren, but lofty land about this point of coast, only distant seventy yards. We immediately tacked, but while the ship was in stays, she struck on a shoal, stirring up the mud plentifully about us. The headsails were at once backed and filled —the ship hung in the balance for a moment—in the next she floated, and we had the pleasure of seeing her again standing off the shore through a thick fog towards the ice. In consequence of the heavy floe ice closing rapidly on us, and curtailing our limits for working the ship, the fog at the same time increasing, we secured her to a large floe for the night. The wind at this time freshened considerably, and night closed in dark, cheerless, and foggy. Our touching the ground on this day was a remarkable coincidence, this being the anniversary of that eventful day in August, the previous year, when a similar occurrence took place, though widely different in degree, entailing, as it did, the loss of a large quantity of provisions.

The land on this part of the coast rose to the height of 400 or 500 feet, inclining from the beach at an

angle of about 25°. It presented a formidable front, and formed a ridge striking in appearance from a few pyramidal shaped mounds studded on its top. They were isolated, and from twenty to thirty feet in height; similar in form to others I had observed on the coast of America.*

The land here presented an aspect of barrenness I have seldom seen surpassed. Not a blade even of the stunted grass or dwarfish Flora, or the slightest trace of vegetation, could anywhere be discovered. Dark boulders studded the escarpment and were strewn on its summit; and the tortuous beds of water-courses, without one drop of the limpid element, here and there intersected a land which appeared one uniform mass of sand and mud, as if recently upheaved from the bed of the ocean.

Previous to our casting off from the floe in the morning, another experiment was made to test the effects of gunpowder on a floe, of the average thick-

* Sir John Richardson met with these conical, barrow-shaped hills on the coast of America, at Copland Hutchinson Inlet, but on low ground, and thinks "they are remnants of the sand formation which covers the shale so extensively along the coasts of the Mackenzie River, and that they have received their conical form from the washing of high tides during the occasional inundation of the low lands by the sea."—*Boat Voyage through Rupert's Land.*

These, though at a much greater elevation, may, perhaps, have been formed from a similar cause during the upheaval of this land at a remote period.—*Author.*

ness of 12 feet, and about 500 yards in diameter. A cask containing 36 pounds of powder was placed beneath it, near its centre by the usual process; this, on exploding, rent it extensively, and it became completely broken up. As we left it, we had the satisfaction of seeing the fragments floating about in various directions. From the result of this experiment we inferred that larger charges might be made available when a ship is closely pressed by ice, to lessen the danger of her being nipped or otherwise injured.

The weather on the 15th still continued foggy, partially clearing off at intervals, with a strong north-easterly breeze, which set the heavy floes drifting down on us from the northward. The report from the mast-head was not cheering. No water could be seen in that direction; but a narrow lane still extended for some distance along the eastern shore. In consequence of our position, and the heavy character of the floes in our vicinity, it was determined to take advantage of some open water and loose ice, to run farther off shore towards the centre of the pack; lest a change of wind might cause the latter, by closing, to throw us on the beach. At 9 A.M. we cast off, made sail to the south-west; and having obtained the best position we could in the centre of the Strait, secured to a large floe, shortened and furled sails; previous to which, and when in the act of wearing ship, the spanker-boom was carried away, with a terrific crash; fortunately, no casualties occurred. The wind had

then freshened to the force of a gale, which did not in any great degree dissipate the fog in which we were enshrouded; and, surrounded by heavy ice, we drifted for the remainder of the day to the south-west at the rate of a mile and a half an hour. This position was not a pleasant one; and our prospects then were certainly not bright, considering we could not see more than sixty or seventy yards around. As evening closed in, wild and gloomy to a degree, there was not much room to indulge in hope for what the following day might reveal. However, we did hope, and prepared to await, with what patience we could command, for a favourable change, depressing as was the reflection that we were then rapidly losing all that we had gained at so much risk and labour during the previous ten days.

CHAPTER XV.

Departure from Prince of Wales' Strait—Chances of passing through it—Course to the Southward—Round Nelson's Head—Course to the Northward—Character of Coast—Islands discovered, and Incidents—Alter Course to E.N.E.—Prospects—Land and Ice—Progress arrested—Dangerous Position—Aspect of Land—Discovery of Wood Hills—Recent and Fossilized Wood—Its Character—Petrifactions—Presence of Iron and Sulphur—Woody Stratification—Bark and Wood discovered in other localities—Geological Causes—Original Character of the Land—Inferences deduced from the Discovery—Critical Position of the Ship—A Bear Shot—Habits of these Animals—Esquimaux mode of killing them.

At a very early hour on the morning of the 16th of August, the fog having partially cleared away, open water was discovered close to our position, the floes having separated considerably during the few previous hours. The ship was immediately warped through broken up, loose ice, when we made sail, and continued working north by east and north-west alternately, against a strong breeze from the north-east, endeavouring to hold our position, or regain a

little of what we had lost on the previous day. At 9 A.M., the report of the Ice mate from the crow's-nest, was not favourable. Although the water in which we then floated extended for a considerable distance, the Strait to the northward was still blocked up. It appeared that as fast as the ice cleared to the southward, a fresh supply was poured in from the inexhaustible icy sea to the north. This report was fully confirmed by Captain M'Clure making a personal survey of it from aloft; indeed we all satisfied ourselves on this point, by an examination at various degrees of elevation up the rigging. Under these circumstances, and in consideration of the advanced period of the season, the length of time which we had been kept in endeavouring to get to the northward, even for a short distance, from the insurmountable barrier hitherto opposed to our onward progress, and from the probability there existed of our being foiled in effecting a passage through the Strait,—perhaps, thrown back to winter in our former position—we reluctantly came to the determination to relinquish, for the present, any further attempt to reach the Strait of Barrow through that of Prince of Wales.

Could we have ensured the certainty of being drifted through in the pack, so as to get within the influence of the easterly currents setting through Barrow's Strait and Lancaster Sound, any amount of risk would have been encountered; but the occur-

rence of such an event at this time was far from probable, and the passage through the Strait of Prince of Wales, so it appears to me, can only be accomplished by a combination of the most favourable circumstances, such as are seldom met with in the Polar Sea. At an advanced period of the season, however, when the ice has well cleared out of Parry Sound and Barrow's Strait, to afford sufficient space for that on their southern shores, and in the Prince of Wales' Strait to be drifted to the northward, under the influence of strong southerly winds, I believe a ship may be carried through by the same agency; and once getting within the influence of the strong easterly currents, and escaping the dangers inseparable from the probability of being beset in the pack, which might not perhaps occur, she must be carried into Lancaster Sound and Baffin's Bay—and thus, a North-West Passage would be made through the Strait of Prince of Wales which we abandoned.

While we could not but regret the circumstances which led to this decision, we were consoled by the reflection, that if enabled to follow the projected course, we should not only be increasing the field of search to a greater degree, but might have, likewise, an equal or better chance of reaching Barrow's Strait, and thus making *the Passage* from the westward.

We, therefore, took advantage of the fresh and fair wind, and open water, to run at once to the south-

ward, and accordingly bore up about 9.30 A.M.,* to endeavour, if possible, to run along the south coast of Baring Island round Nelson's Head, in the hope of finding open water along its western shores, and follow wherever it might lead.

We soon cleared the loose ice, when we saw nothing but open water extending from shore to shore, and as far as the eye could reach to the southward; the western shore in some situations, presented a narrow icy line; but, elsewhere, scarcely a trace of it could be discerned.

At 10.50 the Princess Royal Islands, which we had hoped never again to see, were observed to W.S.W. and at 11.15 Point Armstrong was rounded. We were then approaching those well known localities familiar to every one on board, to which our eyes had been so often and anxiously bent during days of danger and nights of darkness. How different were our feelings as we sped gaily along, through a large

* As we were about to bear up, two ravens made their appearance. Some thought they were our visitors of the winter—they continued for some time ominously hovering over and about the ship, describing circles in their flight, and uttering their harsh, discordant croak, which did not, in any degree, tend to produce comfortable feelings amongst the more superstitious portion of our crew, their presence being considered an ill omen; and in our subsequent days of adversity, the event was often alluded to as a proof *that we should not have abandoned the Strait of Prince of Wales.*

expanse of water, with every stitch of canvas set to a fine, fresh and fair breeze, compared with a period still recent, when we were either immoveably beset, helplessly drifting, or boring our way inch by inch through a heavy ice pack that had entirely disappeared. This change, the most sanguine amongst us could not have hoped for, much less expected; but such is the ever varying aspect this element assumes when once in motion, that it is impossible to predict its changes, or foretell what a few hours may bring forth. At 4 P.M. we passed the southern extreme of the islands, and bade a final adieu to all the famed localities of our winter adventures, then rapidly fading from our view. For the remainder of the day we continued to progress under the most favourable circumstances; scarcely any ice was to be seen—the Strait being evidently clearer of it than when first we entered it nearly twelve months before. Evening came, and the sun took his departure with every indication of a continuance of fine weather.

At 4 A.M. on Sunday morning the 17th, we cleared the Strait, doubled its western extreme and again found ourselves off the south coast of Baring Island, in an apparently open sea, with a fresh breeze from south-east, a heavy swell coming from the same quarter, and a narrow line of ice visible far to the southward. Nothing could have been more auspicious than the appearances which everywhere

met the eye; there was no impediment whatever to our onward progress, and instead of being retarded by the pack which we fully expected to have encountered, with the exception I have mentioned nothing could be seen but land and water—the latter much clearer of ice than at the close of the previous season. We were agreeably surprised at the heavy swell of the sea, setting from the south-east, as we had met with nothing to equal it since entering the Arctic circle. It far surpassed that of which I have spoken when off this coast before; as may readily be supposed from the fact of its breaking over the forecastle on several occasions, and the ship at times having an inclination of from ten to fifteen degrees. Such a state of things, strange and novel to us after so long a period of inactivity, and our recent sailing in water surrounded by ice, where it is ever smooth and unruffled, produced most agreeable feelings. These were associated intimately with our success, and we could scarcely leave off gazing throughout the day on such a cheering prospect, at the same time speculating largely on the future.

At 11 P.M. Nelson's Head was rounded—the distant point of Cape Lambton then broke upon the view, surmounted by the lofty Durham heights crowning this bold, imposing headland. This appeared strangely grand and picturesque in the dim twilight, as its turrets and buttresses stood out in

bold relief, lighted up here and there by the silvery beams of a waning moon. We rapidly increased our distance from this splendid headland which we were never to see again. Several Whales were observed in the course of the day going westward, and two Bears were noticed leisurely swimming towards the distant ice in the southward. This favourable state of affairs suffered no interruption on the morning of the 18th —Cape Lambton was passed during the night, the wind still continued from the south-east; an open sea lay before us, no ice was to be seen, except a few odd pieces scattered along the shore. The heavy mist which hung over the western horizon, told us that the enemy lay in that direction, but we failed to discover it until noon, when its grim outline became visible. We continued rapidly to run along this new line of coast, at a distance from two to three miles, in water varying from thirty-six to forty-five fathoms; examining it with the aid of our telescopes, to discover a trace of anything connected with the object of our expedition. Towards noon our course was altered to north-west, to enable us to round a low point of land that lay directly in our way, and against which a line of very heavy packed ice was grounded; this was subsequently named Point Kellett. At the time that this was observed, the main pack could be seen about three or four miles to the westward, of a most formidable appearance. On reaching the extremity of this low point, some distance

to seaward, we found that it formed the south-western boundary of a most capacious harbour, beyond which the land trended in a north-east direction. At 3.30, when off its entrance, the Second Master was dispatched in the third whale boat to sound and examine its eligibility for a winter harbour, should adverse fate compel us to seek refuge within its precincts; and the ship was accordingly hove to for his return. Advantage was also taken of the circumstance, to leave a record of our visit sealed in a bottle, properly secured in a cask, and placed on the beach, where it formed quite a prominent object.

On the return of the boat in the course of an hour, it was reported that the depth of water was five fathoms uniformly throughout, carrying this depth very close to the shore; this was, of course, satisfactory intelligence. In the event of our being compelled to retrace our steps along the coast, it would have proved a safe harbour.

We then made sail, with a few heavy masses of loose ice floating in our vicinity; but soon got clear of them into smooth water—the pack to seaward being less distant than when first we sighted it. Our soundings then varied from seven to four fathoms, and had been decreasing since rounding the point. We kept as close to the shore as was consistent with safety, and examined it as accurately as a distance varying from one to two miles enabled us.

The character of the coast, from Cape Lambton to

Point Kellett—as well as I could judge from the distance whence I viewed it—appears identical with that described in Franklin Bay, and extends nearly in a straight line for miles continuously. The escarpment composed apparently of sand and loam, was abrupt, nearly precipitous, from 80 to 100 feet high, from the summit of which the land extended backwards in a fine level plain, with apparently good pasturage: at the termination of this, successive ranges of fine lofty hills, extending into the interior, formed the background. The escarpment was in some places quite unmarked, in others, it presented the appearance of being formed of a series of pyramids, placed in juxta position at their base, the space between which and their summits, was quite filled up by sedimentary deposit, and the whole surmounted by a level soil, which, with the cliffs, were doubtless frozen, as we elsewhere observed. The continuity of the coast line was in a few places interrupted by slight indentations, forming shallow bays, into which streams from the higher lands emptied themselves; one of these appeared of considerable size, and discoloured the water for some distance to seaward. Driftwood was likewise observed along the shore, and two pieces were seen floating past the ship from the northward.

After leaving Point Kellett, the land became entirely altered in character and appearance, closely resembling that of the coast of North America, to

the westward of Cape Bathurst, and ran out into numerous low points, some of which, doubtless in process of formation, were so little elevated above the water level, that they could merely be traced by the appearance of a dark line. Between them there were deep indentations, forming large crescentic shaped bays, but which, no doubt, were very shallow, as evidenced by our soundings some distance off shore. Several mounds and conical shaped hills similar in appearance to those I have elsewhere alluded to, were plentifully scattered along the coast, and formed a pleasing feature to its general tameness and uniformity. The land apparently afforded good pasturage for the animals which frequent it, which appeared to consist of Reindeer, Hares, Foxes, Ducks, and Geese; several of which we saw throughout the day—the latter in great abundance. We witnessed an interesting combat between a Fox and Snow-Goose, and concluded the latter was the victor, from the advantage which flight gave it over its enemy, who sought the hills, the other darting with great impetuosity, and making furious onslaughts on him from time to time to complete his victory.

Thus we sped onward for the remainder of the day, rounding point after point. That of "Meek" was passed where the progress of our Consort 'Enterprise' was arrested some three weeks subsequently, when endeavouring to follow us along this coast, and from whence she was obliged to retrace

her steps to the Strait of Prince of Wales, where she wintered.

Throughout the night (if I may so call it) our progress continued uninterruptedly good; and the morning of the 19th dawned on us auspiciously. The weather was fine, the wind continued steadily from the same quarter, enabling us still to follow our north-east course, an open sea lay before us, with here and there small streams of loose ice floating off to the pack—the latter about half a mile to seaward, and some two or three from the land, appeared to have been but very recently set off shore, to which it would, doubtless, return on a change of wind. Our object, therefore, was to make the most of these favourable circumstances. As early as 4 A.M., an island was observed to the northward on our port-bow, and we continued our course between it and the land—the latter still presenting the low pointed character of the previous day. Towards noon, after rounding a projecting point of coast, we crossed the entrance of a wide and deep bay, (to which the name of Burnett was bestowed). At its termination, the continuity of the coast line appeared to be interrupted for a few miles, and a barrier of ice could be seen extending across; but we were unable to verify the fact as to whether an inlet, or as some supposed, a strait, existed, or otherwise. My own opinion was in the negative; for the ice could not be traced from the mast-head any distance into the interior, and I

have no doubt, it was nothing more than light-grounded ice thrown up by refraction; besides which, neither deep inlets nor straits are found on this kind of coast. The probability of their occurrence appears remote when we consider the process of formation—shallow bays and low points being features which, I may say, universally predominate.

At 8 A.M. a second island was observed in a line with the first, which we had then passed. We bestowed on one the name of 'Norway,' while the other received that of 'Robilliard.' This we reached at noon, and in running between it and the shore, the soundings which had before been from six to seven fathoms, suddenly shoaled to two and a half, and brought us within six inches of the ground. This we must have touched, as the mud was stirred up, rendering the water quite discoloured, with pieces of ice around both floating and grounded. We immediately shortened sail and letting go the bower anchor, despatched the third whaler with the second Master (Mr. Court) to sound. Kedge anchors were laid out to windward, and we warped the ship again over the ground, whence we had previously come, until the return of the whale boat told us that the water outside our position was sufficiently deep to allow us to continue our course, without going outside the island; we were thus spared several hours further labour at the capstan, which had been cheerfully manned by all hands. As we advanced, island

after island followed each other in a continuous chain, several miles of water intervening, and between them and the coast our course still lay. The pack approached more closely—we were at times sailing through streams of loose ice, continuous with its edge. This appeared of a stupendous character, and no doubt could exist of our being on the margin of the great Polar pack, while apprehensions were entertained that our progress would soon be arrested, from its increasing proximity. The land still continued of the same aspect—the islands not differing from that of the neighbouring coast, were for the most part from one mile to half a mile in length, varying in elevation from forty to ninety feet, which they attained in the centre—in other respects they are of the usual brown Arctic character. We thus continued at a good speed, apparently aided by other influences in addition to the light breeze which still favoured us; but whether tide or current could not then be accurately ascertained. At noon our position was found to be in lat. 73° 55′ 23″ N. long. 123° 52′ 20″ W.

As evening advanced, the ice of a very heavy character gradually closed on the shore, and the last point was seen in the distance, to the northward; beyond this nothing but ice could be discerned from the mast-head, following the course of the land, which from this point trended away to the east-north-east. Off its extremity were two small islands, the termination of the chain of outworks along the

coast, completing the seventh in number. On the outermost, the ice was packed to the height of forty feet—evidence of the tremendous pressure caused by the prevalence of westerly and north-westerly winds. This remarkable turning point was subsequently named Prince Alfred's Cape, in honour of His Royal Highness Prince Alfred; and to the island was given the name of 'Gore'—one of the brave Franklin's gallant companions.

We were most anxious then, as to what might be revealed on the northern shore of this, the last of the points: whether our progress was to be arrested by the great Polar pack that lay before us, or should find space sufficient to lead us into the arm of this ice-bound sea, is continuous with the Strait of Barrow, and which some of us firmly believed to be the entrance.

The goal was at length reached, the Cape rounded, and our course altered to E.N.E. To our great delight a space of open water, some 700 to 800 yards wide, extended along its shores as far as the eye could reach, with heavy masses of loose ice streaming off to the pack edge, which appeared of a most formidable character. That it had but recently set off shore by the south-easterly winds, which for the previous few days had so signally favoured us was evident. Nothing but ice could then be discovered to the northward of our position. When off this Cape, the depth of water was $7\frac{1}{2}$ fathoms, but as our entire

dependence was on the lead line, which had hitherto done us such good service, and as we had had frequent experience of the rapidity with which the water along these coasts shoaled, a boat was dispatched with the Second Master to sound, before we proceeded further: the ship was hove to, until his return, when to our great joy he made the preconcerted signal that we might follow him in safety. All sail was again made, and we had no sooner fairly rounded this point of coast, than the water suddenly deepened to 15, and then 30 fathoms; presently we could obtain no bottom at 65 fathoms. So different was this from the previous two days, that it appeared as if we had suddenly come within the sphere of some new and strange influence. We could not but remark, at the same time, how altered had become the aspect of the land, not only in the increasing boldness of its features, but likewise in its irregularity of outline—hill after hill rising above each other, with the usual intervening gorges, ravines, and water courses, and the now familiar pyramidal shaped mounds peering on their summits, with all the wildness, bleakness, and sterility, which stamped its character as truly Arctic; in short, worthy of what we considered it to be—the north-western extreme of land bounding the trackless icy ocean at this part of the globe.

The ice, also, had become altered in character—much heavier, with numerous masses deserving the name of bergs, grounded in-shore; and as the soundings

had increased considerably, we could not feel otherwise than convinced, that we had got into water which would lead us to Melville Island. This opinion was so much strengthened by circumstances—the trending of the land, the deepening of the water and the existence of a strong current setting to the eastward—that no doubt remained in our minds of the fact. This conviction led us for a time to indulge in hopes too sanguine to be then expressed, lest our progress might be soon arrested.

For the remainder of the evening, we continued to run along the land, which became bolder and more lofty as we advanced; the coast in some places deeply indented, forming a few harbours, apparently deep, and capable of affording shelter to ships. One of them, some eighteen or twenty miles to the eastward of the Cape, was sheltered by a sort of breakwater facing the north; doubtless, formed by the pressure of the ice—from which it may be inferred, that the water inside was not very deep, and that an entrance existed at either end, due east and west. Another was observed of a crescentic shape, to the westward of the preceding, the entrance of which was on the west side. Time was too valuable, and our position too critical to admit of the delay necessary for a more satisfactory examination of them.

It appeared as if it were then the height of the season in this latitude, from the great number of its only inhabitants we saw in the course of the day.

No less than ten Bears were observed, three of them roaming about on the land, the remainder on the ice—strong evidence of their abundance. Reindeers were seen on the island, and the largest Seals, quite colossal in size, basking in the sunshine on the ice; but watchful withal, of the advance of their inveterate foe—the bear. Vast numbers of Geese and Ducks were likewise seen; the former including the Brent and Snow-Geese; the latter, the Common, King Eider, and Long-tailed Ducks.

The weather had quite a summer character, temperature from 43° to 51°, and the water from 29° to 36°, increased in density on rounding the Cape, from 1,013 to 1,018.

During the night the space of open water gradually lessened in extent, but was sufficiently deep to enable us to approach within a few yards of the beach. So close were we at some places, that the quarter boats were obliged to be topped up, and poles used, to keep the ship from the ice grounded on shore; nor could we safely have rounded the ship had we felt so disposed—and that our progress was likely to be soon arrested, there could exist but little doubt. The bed of a large river was observed on the coast, off the entrance to which we sounded in eleven fathoms; and two Bears were seen sleeping on the shore in its vicinity, overcome, doubtless, by the lethargic sleep of repletion after a Seal feast.

At 5 A.M., on the morning of the 20th, the wind

changed to W.S.W., bringing with it fog and light rain. The ice closed on the shore, rendering it impossible to make any further advance; as far as we could see, it was heavily packed along the coast to the northward, of the same heavy floe character, and trended to the eastward. The ship was at once secured to a massive piece of ice—grounded in twelve fathoms of water, about twenty feet higher, and not more than seventy yards from a beach of mud and shingle—with the land rising almost precipitously above it, to the height of from two to three hundred feet in a range of hills, which formed the sea front of others still more elevated, in the interior. We took up this post from the protection it would afford us, against the pressure of the stupendous pack outside, then setting to the eastward at the estimated rate of a mile an hour.

It is needless to dwell on the dangerous position we then occupied, for any sudden change of wind to that quarter—north-west, whence it generally blew—by setting the ice on shore, must inevitably have worked our destruction, by throwing us on the beach; in this unenviable situation, we could only await the course of events, and hope for an early deliverance. Critical as it was, however, it was to us novel, from the fact of its affording greater facility for reaching the shore than we had ever experienced since leaving England; and we accordingly prepared to take every advantage it offered.

A tide pole was in the first instance erected close to the shore, and after the delay of a few hours, when fully satisfied no change in the ice was likely to take place to favour our advance, a considerable number of officers and men landed, in the hope of obtaining fresh supplies—Hares and Ptarmigan having been seen close to us on the land. Orders were given that a gun should be fired from the ship as a signal of recall, in the event of there being the least appearance of the ice setting off shore. On ascending the hills in our immediate neighbourhood, I found the land of the usual Arctic character, but much higher than any we had hitherto seen; lofty ranges of hills gradually rising as we advanced, occasionally with sides almost precipitous, with deep intervening gorges and ravines, through which the dry beds of the mountain torrents ran. Some of these were of considerable extent, their impetuosity in the season of their activity, was evidenced in the occurrence of landslips frequently in their course. All the streams appeared to empty themselves into a valley of some extent running from the beach into the interior. In the spring a continuous sheet of water covers it reaching to the shore, where it expands into a delta, and empties its contents by several mouths into the sea, about 800 yards to the eastward of our position. In this manner is the land drained of its water and snow during the season of thaw. With the exception of this valley and a few smaller ones,

there was but little level ground to be seen. The soil was composed of sand and loam—in the course of the river beds there was much alluvial deposit, and here the greatest amount of vegetation was met with; but the surface of the land elsewhere, on the summits of the highest hills, was entirely covered with shingle, water-worn pebbles and stones of considerable size—but few of them deserving the name of boulders—in no respect differing except in magnitude from the mounds of sand and shingle formed on the beach by the pressure of the ice; they appeared as if they had but recently emerged from the sea. The pasturage in the more sheltered situations, particularly those with a southerly aspect, was, comparatively speaking, abundant for the animals which frequent those regions; abounding in stunted grasses, mosses and fungi; and I have no hesitation in pronouncing this land, wild and sterile as it was in aspect, to be as luxuriant in vegetation in these situations, as any other I had seen since leaving the coast of America. It was, however, wonderful and strikingly grand to view those immense hills rising abruptly from the margins of the river beds, denuded as they were of the slightest verdant covering, which contrasted strangely with the little verdure at their base. On their sides, numerous pieces of what appeared driftwood were strewn, some light, others from two to three feet in length, and six or seven in diameter. Several had their ends protruding, and on my attempting to pull them

out I failed in doing so; conveying the idea of their being deeply imbedded in the soil; this I determined on the earliest opportunity to ascertain by excavation. Several small streams were observed issuing from the interior, depositing, in their course, on the stones over which they flowed, a combination of iron and sulphur; the water having in excess all the astringent taste peculiar to the former, with the unmistakeable odour of the latter combined with hydrogen. Several Hares, Ptarmigan and a few Plover were shot; the tracks and remains of Reindeer were numerous, their antlers were strewn about in considerable abundance; two Wolves were seen devouring the remains of one, and were fired at. They fled, and could not be again approached.

On our return to the ship, we found that some of the party who had gone more to the westward, including Messrs. Piers and Sainsbury, had arrived, bringing with them several specimens of petrified wood, and reporting the existence of other wood on hills of considerable elevation, in a state similar to pieces we had seen elsewhere further inland. The petrifactions consisted of pieces of the branches of trees from six to twelve inches in length, and from one to four inches in circumference, of metallic weight and hardness, from which a metallic sound was elicited when struck; this appeared to me to result from its impregnation with iron in the form of brown hæmatite and from some siliceous product of the soil.

We at once resolved to visit the spot, and in the evening, I accompanied Captain M'Clure and a small party in the third whale boat along the shore towards the place. I feel my inability to describe or convey a truthful idea of the bleakness, wildness, or desolate grandeur that met the eye on landing upon the part of the coast which led us to the desired locality. From the beach, a narrow vale extended tortuously into the interior, through a series of hills, rising range after range from 600 to 700 feet in elevation, unmarked by the slightest trace of vegetation. Their abrupt, nearly precipitous escarpments separated from each other by deep and tortuous gorges, presented nothing to the view but sand and shingle; affording a picture of wild desolation and solitary grandeur, apparently matchless, and to be seen only in the distant regions of the Pole. On ascending one of these hills, about a quarter of a mile from the beach, on its side, about 300 feet high from the sea level, we discovered the wood of which we were in search. The ends of trunks and branches of trees were seen protruding through the rich loamy soil in which they were embedded. On excavating to some extent, we found the entire hill a ligneous formation, being composed of the trunks and branches of trees; some of them dark and softened, in a state of semi-carbonization. Others were quite fresh, the woody structure perfect, but hard and dense. In a few

situations, the wood, from its flatness and the pressure to which it had for ages been exposed, presented a laminated structure, with traces of coal. The trunk of one tree, the end of which protruded, was 26 inches in diameter by 16 inches; that of another, a portion of which was brought on board, was 7 feet in length, and 3 feet in circumference; and dense in structure, although pronounced then to be pine.* Other pieces, although still preserving the woody structure, had a specific gravity exceeding that of water, in which they readily sunk, from their having undergone an incipient stage of impregnation with some of the earthy products of the soil. Numerous pine cones, and a few acorns were also found in the same state of silicification. The trunks apparently extended a considerable distance into the interior of the hill, and, were bituminous and friable. Many of those which

* A section of this piece of wood is to be seen in the Museum of the Royal Dublin Society, Dublin. To the obliging kindness of its able Director, (Dr. Carte,) I am indebted for a knowledge of this fact; who has also kindly informed me, that he submitted it to the examination of Drs. Steele and Joseph Hooker, both of whom pronounced it to be coniferous wood. The latter thought it of the white pine species; and one of the semi-fossilized cones has been pronounced by Dr. Harvey, Professor of Botany, Trinity College, Dublin, to be similar to the present Spruce of North America.

I may here also mention that there is a very interesting collection of Arctic costumes, travelling equipments, and objects of Natural History, now in the British Museum; presented by John Barrow, Esq, F.R.S., Admiralty.

were embedded, crumbled away on being struck with a pickaxe, which readily found its way into any part of them, rendering their removal impossible; some of them were in such a state of carbonization as to approach lignite in character. The whole conveyed the idea of the hill being entirely composed of wood. As far as our excavations were carried, nothing else was met with, except the loamy soil in which they were embedded; but the decay of the wood in some places appeared to form its own soil. The petrifactions, with numerous pieces of wood were found strewn everywhere over the surface of this and many of the contiguous hills. Many specimens of these were obtained, varying from one to fourteen inches in length, the longest not exceeding five or six in circumference; they consisted of portions of the branches of trees. Some of them were impregnated with iron (brown hæmatite), had a distinct metallic tinkle when struck, and were heavier than other pieces, without the metallic impregnation or sound; they were simply silicified, the sand entering into the composition of the soil being siliceous or quartzose. Several smaller pieces of fresh wood were also found strewn about, which had not been, perhaps, subject to the petrifying influence of the water. The numerous small rills which issued from the interior, similar to those I had seen in the morning, flowed over the surface, and the constituents of the water largely impregnated, as it was with iron and sulphur, indicated from whence the

metallic agency in the petrifaction was derived; this also possessed a dull yellowish-brown discolouration of the sulphur, and the stones everywhere over which the water flowed were coated with the same.

On several of the neighbouring hills I observed distinct stratifications of wood running horizontally in a circular course, formed by the protrusion of the ends of the trunks of trees, to some of which the bark still adhered; and large pieces of this, cropping out and hanging loosely, frequently led in other situations to our detection of the wood to which the bark adhered in the soil. Any attempt to remove these with the hand or other slight means failed; and excavation ever established the fact that the hills were entirely composed of wood—the appearances met with, being identical with those first mentioned. On subsequent occasions, when exploring the land several miles in the interior, observation led me to infer that a precisely similar state of things there existed. The situation in which our first excavation was made was in lat. 74° 27′ N., long. 122° 32′ 15″ W., and about a quarter of a mile from the beach. The distance, inland, whence similar appearances were observed, embraced a circuit from eight to ten miles in diameter.

This discovery of wood in a recent and petrified state in a part of the world where we could have had no expectation of finding it, in regions whose blighting climate is opposed to the nurture of vegetable life, as evidenced in its scanty verdure, stunted Flora, and

creeping dwarf-willow, its only arborescent production, could not but impart a feature of great interest to our voyage, and was a subject for geological research no less interesting than strange. Similar appearances, observed elsewhere, bear so striking an analogy to this singular discovery as to invest it with still greater interest, and I cannot forbear alluding to them here. In the explorations of the Ustiansk Expedition, under Lieut. Anjou, in 1821-23, on the South Coast of *New* Siberia, and in about the same latitude as that of our discovery in Baring Island, "wood hills" were discovered composed of trunks of trees, some ten inches in diameter, not very hard, of a black colour, bituminous and friable.*

Hendenström observes:—"On the southern coast of New Siberia, are found the remarkable Wood Hills. They are 30 fathoms high, and consist of horizontal strata of sandstone, alternating with strata of bituminous beams or trunks of trees. On ascending these hills, fossilized charcoal is everywhere met with, covered apparently with ashes, but on closer examination, this ash is also found to be a petrifaction, and so hard, that it can hardly be scraped off with a knife. On the summit, another curiosity is found, namely, a long row of beams, resembling the former, but fixed perpendicularly in the sandstone. The ends, which project from seven to ten inches, are, for the greater

* *Vide* "Appendix to Baron Wrangell's Voyage," translated by Major-General Sabine.

part, broken. The whole has the appearance of a ruinous dike." Lieutenant Anjou, who likewise examined these Wood Hills, says: "They are merely a steep declivity, twenty fathoms high, extending about five wersts along the coast. In this bank, which is exposed to the sea, beams or trunks of trees are found, generally in a horizontal position, but with great irregularity, fifty or more of them together, the largest being about ten inches in diameter. The wood is not very hard, is friable, has a black colour, and a slight gloss. When laid on the fire it does not burn with a flame, but glimmers, and emits a resinous odour."

I have also observed in one of the Parliamentary Blue Books,* that a travelling party from H.M.S. 'Resolute,' when at Melville Island, on their return journey after exploring Prince Patrick's Island in 1854, discovered the trunks of trees embedded in a white sandy soil, on the same meridian as that of those discovered by us, but two degrees further north. One was four feet in circumference and thirty feet long, and another two feet ten inches in diameter; with several parts of similar trees just showing above the soil. Thus establishing a fact no less important than interesting, that throughout the wide extent of the Polar Sea, as far as observation has enabled us to determine, there existed at one period various and

* Published by Order of the House of Commons, 1855.

luxuriant forms of arborescent growth, in regions where nothing is now to be seen but desolate lands and trackless ice wastes.

The facts thus rendered incontrovertible, lead us to but one conclusion, that, lands probably of much greater extent, different in physical character, covered with forests, and with a climate more elevated in temperature, preceded the upheaval of those now in existence, from the bed of the ocean. Hence the great accumulation of wood and coal beneath the surface, in various stages of organic change—metallized, carbonized, and silicified, resulting from one of those remote and inscrutable terrestial convulsions associated with the great secondary era of geological formation in the creation of the world. The former lands having been for ages submerged, were upheaved above the surface of the ocean by some powerful submarine volcanic agency, and enveloped in the shingly bed of the sea; they were again elevated to the surface, and from the igneous and chemical products of this action, have resulted the changes I have narrated.

Nor is it in the frigid regions of the north alone, that these wonderful terrestrial, and climatorial changes have taken place; for similar discoveries have been made in the opposite hemisphere, amongst the distant lands of the Southern Ocean. My friend, Dr. M'Cormick, Surgeon, Royal Navy—an officer no less distinguished in Arctic than in Antarctic exploration and research—to whom I mentioned this

discovery, informed me that he had found a like state of things in Kerguelen's Land, in the South Pacific Ocean, when Surgeon and Naturalist of the Expedition, consisting of Her Majesty's ships, 'Erebus' and 'Terror,' that remained in those seas from 1839 to 1843. As the circumstances seemed nearly identical, we found, on comparing the notes, each of us had made at the time of our respective discoveries, that there was not only a similarity of appearance in these objects, but a perfect unity of opinion expressed as to their origin. At my request, he very kindly furnished me with the following particulars.

"Kerguelen's Land or Desolation Island, isolated amid the vast southern ocean, in the 50th degree of lat. and 70th of long. with a stormy and tempestuous climate, is wholly destitute of arborescent forms of vegetative life. The largest plant now existing on its surface is a species of the cabbage tribe, attaining a height of about two feet, and peculiar to the island, which is of volcanic origin, rising from the sea in a succession of horizontal terraces, constituted of basaltic rocks passing into the various modifications of greenstone, amygdaloid and porphyry, with occasional protrusions of hills of phonolite. The whole aspect of the land is wild and picturesque in the extreme. Bold capes jut out along the coast, which is deeply indented by bays and inlets. Lakes diversify the terraces, from which water-courses descend their steep

escarpments in countless impetuous torrents and beautiful cascades.

"The Fossil wood, I discovered on the south side of Christmas Harbour, abundantly embedded and scattered over the surface of the debris, at the base of a huge block of basalt, 400 feet in thickness, which rests upon a terrace 600 feet in height; the whole attaining an elevation of 1000 feet above the level of the sea. The wood was highly silicified, very ponderous, its weather-worn surface of a greyish white colour, but black as charcoal internally. Between the block of basalt and the ridge, a thin bed of shale interposed; and in the debris beneath, at an elevation of 600 feet, I dug out the trunk of a tree, seven feet in circumference, completely silicified. In the "Arched Rock," 150 feet in height, situated at the entrance to the Bay, I found specimens enclosed in the solid wall of basalt, having a twisted appearance, more charred, and not so hard in texture. Near this, in a curve of the bay, a seam of lignite, or wood coal, four feet in thickness, and forty feet in length, crops out from beneath a superincumbent ridge of basalt, rising 500 feet above it. During a boat expedition in which I was engaged, on a survey of the N.W. coast of the island, I found a similar bed of coal—but no wood—in Cumberland Bay, having the same dull brownish black colour, and fissile fracture; which burnt well enough for the boat's crew to cook their food with. In an adjacent hill, a bed of anthracite

crops out, glossy-black, light and friable. Both were overlaid by amygdaloid and greenstone.

"The history of this island, inevitably, leads to the conclusion, that a far more extensive land covered with forests, preceded its upheaval from the deep. Hence the great accumulation of wood and coal at some epoch, when the climate was more favourable for the growth of trees, than at the present time; and, that these entombed ancient forests after having been for ages submerged, again became elevated above the waters of the ocean, through the agency of some great submarine volcanic action, during which, the lava streams have flowed over the beds of coal, and enveloped the fragmentary trees, whose forms have been preserved from the destructive effects of the incandescent fluid by the superabundant silica that fossilized them. Thus, with the exception of the character of the rocks of this island, and the absence of metallizing agency in the soil, our discoveries differed but little. In Kerguelen's Land there had been more active volcanic agency, as evidenced in the entire absence of all sedimentary rocks; whereas in Baring Island these rocks alone were found, having been brought to the surface by a less intense degree of volcanic action during their upheaval from the deep."

After our return on board, and while narrating our recent extraordinary discovery of the wood, the ship's safety was suddenly threatened by a commotion in

the ice, which had been setting steadily to the eastward throughout the day, and now rendered our situation one of extreme danger. A large floe having come into contact with the very piece to which we were secured, so tremendous was the pressure resulting, that the latter was driven from twelve fathoms water, in which it was grounded, into eight; and a projecting tongue which extended under the ship's bottom, lifted her out of the water six feet. It was quite frightful to view the huge mass oscillating to and fro, as if about to fall on and crush us to atoms, as it was borne on its involuntary in-shore course. Our safety entirely depended on remaining attached to the picce, and on its integrity being maintained. It warded off the pressure from the ship, otherwise the same power would have driven her on shore, had she escaped being completely crushed by such irresistible force. The result was, that the floe was rent in pieces, and we were driven nearer the shore—our connection being still maintained with the piece which had so admirably withstood the attack—and we were then left in a position even more critical than before, not knowing the moment when the shock might be repeated, and our safety again threatened. We consequently remained in a state of preparation, ready for action at a moment's notice.

On the 21st, the ice still continued to drift to the eastward, but at a much slower rate than on the previous day. It was everywhere closely packed, and

afforded appalling evidence of tremendous pressure in the huge masses that were piled together, and forced up along the shore.

The weather had become cold and raw, with a south-easterly wind, fog, sleet, and occasional squalls, which did not improve the general aspect around. We observed a rise and fall of 6½ inches in the tide, and found a considerable quantity of drift-wood marking its line on the beach, some of which had been borne up for a considerable distance, from the effects of pressure.

In the evening a Bear was observed coming leisurely towards us, along the shore from the westward. As he would evidently come within range of our guns from the ship, preparations were made to receive him, by a few of us taking up a position on the forecastle; while Messrs. Piers and Sainsbury were landed on the beach, to await his approach, under cover of the mounds of shingle, and cut off his retreat in the event of his escaping our guns. He approached within sixty yards, when his curiosity being excited by the appearance of the tide pole a few feet from the beach, he stepped into the water, and was proceeding to make an examination. The shore party fired, the first shot struck him, he staggered, made an attempt to run, when we poured in our fire from the ship, and at once brought him down before he regained the beach. Bruin proved to be a young she Bear, with a remarkably fine white fur, and a

depth of blubber upwards of two inches; but not a trace of food was in his stomach, which was quite flaccid, containing only a little frothy secretion.

Frequent allusion having already been made to these animals, a few additional particulars regarding them may not be unacceptable. The Polar Bear (*Ursus Maritimus*) is one of the largest, as it is likewise the most formidable inhabitant of the north, and is found in the highest latitudes yet attained by man. It is generally met with roaming over the ice, or sauntering along the shores of the Polar Sea in the pursuit of Seals which constitute its principal and favourite food; and frequents localities where water is likely to appear early—the presence of the latter ever ensuring that of the former—consequently they are more abundantly found in straits, or deep inlets, rather than in the confined precincts of bays. They are seldom seen inland; a party of our men, however, on one occasion pursued one, which they met about a mile in the interior, making towards the sea. The average weight of a full grown bear is about eight cwt., it is usually from eight to nine feet in length, and about four feet in height; but several have been killed of larger dimensions. With respect to their migratory and hybernating habits, much difference of opinion exists. I can only state, as the result of our experience, and that of other Polar Expeditions, that they were frequently shot during the winter, and were constant visitors in latitude

77° and 74° N.—this is a strong proof against their migrating to the southward on the approach of winter, or, at least, against the universality of the practice. This may, I believe, be much influenced by the facilities of procuring food, or otherwise, as we know that in inter-tropical latitudes the æstivation of animals is determined, not by the temperature, but by the periods of drought, which effects their sustenance; hence, a supply of food may keep them from hybernating, and its want induce it. Those shot during the winter, however, were all males—supporting an opinion generally entertained, that the gravid female alone hybernates; this she does beneath the snow, at the close of the year, and issues forth in the following spring, attended by one or two cubs, for which she ever manifests the greatest maternal care and solicitude.

The courage and ferocity of this animal have long been held in great dread; but experience proves that these qualities are combined with a mixture of cowardice, sagacity and timidity. We had repeated opportunities of meeting and pursuing him in his own domain of Polar ice; when impelled by hunger or irritated by a wound, an attack may be apprehended; but a fearless advance appears to intimidate him. Under other circumstances he manifested no disposition to attack. Numerous instances are on record where Bears have fearlessly approached a sledge party —with what intention it is difficult to say, whether

from instinctive curiosity, or other less friendly motives—the parties not waiting to ascertain the result, as the incautious intruder generally forfeited his life by his temerity. During our late searching operations, on several occasions one has actually introduced his head into the tent when the party were asleep; others have eaten articles off the sledge outside; but in all my personal encounters with them, I have for the most part found it difficult to get them within range of my gun. The flesh of the Bear we have eaten—it is coarse, oily, and I may say almost tasteless—whatever it does possess of flavour is not agreeable, and to hungry men only could such diet have been acceptable.

The Esquimaux in their pursuit of the Bear, frequently imitate the motions of the Seal, by laying flat on the ice, until he approaches sufficiently near to ensure a good aim; but a gun is necessary to practice this stratagem with success. Another mode of capture which they adopt, is worthy of narration, no less from its simplicity in practice than the originality and ingenuity of the contrivance; this is by taking advantage of their well known voracity, as they generally swallow their prey without much mastication, when not too large to pass their gullet, and the natives being without fire-arms, would otherwise encounter great risk in attacking them. A thick and strong piece of whalebone about four inches broad and two feet long, is rolled up into a small compass and care-

fully enveloped in blubber, forming a round ball. It is then placed in the open air at a low temperature, where it soon becomes hard and frozen. The natives armed with their knives, bows and arrows, together with this frozen bait, proceed in quest of Bruin. As soon as the animal is seen, one of the hunters deliberately discharges an arrow at it; the monster smarting from this unprovoked insult, pursues the party then in full retreat, until meeting with the frozen blubber, dropped in his path, he swallows it and continues the pursuit—doubtless fancying that there must be more where that came from. The effects of the chase and the natural heat of the body cause the blubber to thaw, when the whalebone thus freed, springs back, producing great mischief, and obliging the beast to discontinue the pursuit—he falls down helpless writhing in agony, and his existence is soon terminated.*

* "Seeman's Voyage of the 'Herald.'"

CHAPTER XVI.

Weather and Prospects—Lakes—Fish—A Musk-Ox Hunt and Incidents—State of the Ice—Traces of Esquimaux—The 29th of August—Perilous Position and Miraculous Escape—Incidents—Position on the 30th—Blasting Ice—Preparations for Winter—Collecting Ballast—A Jerfalcon Shot—Black Fox seen—Bears—State of the Ice—Sudden Disruption—Drifted off from the Shore—Beset in the Pack—Operations for our Release—Blasting—Critical Situation—Our Escape—Reach the Shore—Ship's Safety again threatened—State of Ice—Operations by Blasting and Results—Open Water—Incidents—State of Ice.

THERE was no change in our position on the 22nd. The weather remained the same. The land presented a very bleak aspect from the recent snow and sleet, having bestowed on it its wintry garb. The ice was stationary, from which we inferred it had encountered some obstacle to its advance further to the eastward; and the temperature of air ranged from 32° to 36°; that of sea-water 28° to 30°, which I found to have a density of 1017.

We continued our explorations daily into the inte-

rior of the land, and were generally rewarded by bringing on board a few Ptarmigan or an occasional Hare. On one occasion, we discovered two fresh-water lakes, about 1½ miles inland from the ship, of a basin-like shape, about 300 yards wide, with rather precipitous sides, some ten or twenty feet high. The water contained in either was fresh and pure, which froze in one, when the temperature of air fell to 32°, but not until it had fallen 10° lower did ice form on the surface of the other. This appeared a strange anomaly, as I found there was no material difference in their relative temperature—barely one degree—and none, as far as I could ascertain, in the constituents of the water; nor did they communicate with each other. That which was frozen was about ten feet higher above the level of the sea than the other, and had one fathom less water, its depths being five, and the thickness of its ice was double that of the lower lake. Previous to the ice forming on their surface we hauled the seine, and procured in the last frozen lake three trout, each about one pound in weight, and a few smaller ones, but found none in the other. There were also brought up in the net a few vegetable polyps, some round, others nodulated from one to two inches in diameter, composed of a tough gelatinous substance, enclosed in a strong membranous capsule, and of a dark green colour; but otherwise possessed of no particular interest beyond the fact of their being found here. 'The sea along this shore

seemed nearly destitute of animal life; and, notwithstanding repeated efforts at dredging wherever there was a space of open water, I could only procure a few specimens.

On the 25th, the ice had separated a little from the shore, but not to a greater extent than would allow of the passage of a boat for about a mile, and that only with difficulty; so that there was but little alteration in our prospects. The usual number of hunters had gone abroad, myself amongst the number, and ranged over a great extent of country. I had separated from my party, having been lucky in shooting a Hare; and after a long march with my trophy slung on my back, slowly wended my way to the ship, rather fagged with the day's exertion. As I approached the barren plain, which is the great aqueduct for conveying the mountain stream to the beach, and of which I have elsewhere spoken, I espied at a great distance a small dark object moving towards me; this, with the aid of my telescope, I discovered to be a Musk Ox. I at once determined to encounter him single-handed, made the necessary dispositions for attack, and gradually approached with a view of driving him into a gorge, where my chances of success might be much greater. I had already killed him in my own mind, and was indulging in the exultation I should feel while returning on board with such pleasing intelligence —our crew having been some time without fresh meat — when, unfortunately, two of the Warrant

officers joined me. I had got within seventy yards of the animal, just at the entrance of the gorge, where I expected to make him my prize, when, seeing two men emerging from it, he suddenly turned, faced and rushed at full speed towards me. I stepped aside, fired, wounded him in the hind-quarters, and brought him on his haunches; then a ball from my second barrel struck his impenetrable bony frontlet formed by the expansion of the horns, and rebounded as if from a plate of steel; he turned and fled somewhat lame from his wound, which bled rather profusely, and before I could reload he was far out of range—but I still followed him. A party of our men, who met him, instead of exercising a little strategic skill, very sailor-like, gave chase for miles, but never could come up with the then affrighted animal, and he was lost. The fatigue of hunting with a Hare on one's back, I found by no means trifling, and I reached the ship much exhausted.

A second Musk Ox was seen by another party, and fired at by the Boatswain. While reloading his gun, having put the powder in the barrel carelessly, he placed the muzzle against his abdomen, and searched for a ball. The powder exploded, burned his clothes, and scorched him severely, to his extreme alarm and that of his companions, who discontinued the chase to bring, as they supposed, a dying man on board—he believing his last hour was at hand. They reached the ship in a most affrighted state, and it was

with difficulty he could be persuaded that his wound was not mortal; from some incidents attending which, great amusement was afterwards derived, it being generally supposed that a marling-spike would have been a better weapon in the hands of the boatswain. In this, however, we were mistaken, for, no doubt hurt that his sporting qualifications should be questioned, he afterwards became one of our most active and successful hunters, when necessity compelled us to make the most strenuous efforts in the chase.

On the 27th, the weather assumed a more wintery aspect, young ice had been for some days forming on the small spaces of water along the shore, suggesting a change of season, which in our position we could not think of but with the most serious apprehensions. Spring tides being then present, we found there was a rise and fall of two feet six inches, but no alteration in the ice nor any appearance of motion. The young ice had attained a thickness of two inches, and the temperature kept steadily below freezing point; thus the navigation had apparently been brought to a close.

Some of our sportsmen in the course of their rambles reported that they had seen the remains of an old Esquimaux encampment, and as we were desirous of verifying the statement, I proceeded on the 27th, accompanied by Mr. Sainsbury and the Interpreter in search of the locality. The morning

was cold and raw with sleet and rain at intervals, and after travelling about three miles along the shore to the westward, reached the place; an examination of which left no doubt of its having been a resort of Esquimaux. We found two mounds of a circular form a few yards apart, around each six heads of Musk Oxen were embedded in the soil, which we found frozen twelve inches beneath the surface. Numerous bones of Reindeer, Foxes and birds were strewn about, much bleached from long exposure. From this fact and others subsequently ascertained, we had conclusive proof of these people having travelled round the entire coast of Baring Island; they doubtless found from the experience of one or two seasons that they could not exist on its shores, as they had evidently hunted their way, and ultimately retreated again to the southward. This circumstance may be taken as conclusive evidence how little available would be the best efforts of a party in sustaining life for any length of time in this part of the Polar Sea, if entirely depending on its resources, and their own exertions.

The 29th of August was an eventful day in the voyage of 'Investigator,' and nearly brought her cruise to a tragic termination. The weather had remained of the same gloomy aspect with strong north-westerly winds, snow and sleet at intervals, and temperature of air from 25° to 29°. Stationary as the ice had been during the previous week, it underwent

a change no less wonderful than hazardous, to us, at 8 A.M. on the 29th. It was observed in motion to the eastward, and at 9, heavy pressure came on the berg to which we were attached, carried it from its grounded position completely round, and raised it some twenty-five feet out of water; presenting a most frightful aspect, overhanging the ship nearly as high as the fore-yard. We were fearful lest a continuance of the same force would throw it entirely over, when we must have been inevitably crushed to pieces on the instant. Fortunately, however, our suspense did not long continue; the floe split, and the berg giving one or two appalling rolls, bore us with it into deeper water, and into the midst of heavy ice in the wildest commotion—both were driven onward with the moving masses, the berg being then afloat and incapable of resisting further pressure. To prevent the ship from being driven on shore, our entire reliance lay in maintaining unimpaired our connection with the berg; this was still further strengthened by one nine inch, three six and two five inch halsers, and a stream chain, two of which were passed round it and secured. In this state we were still borne onward, about eighty yards from the shore, the ship sustaining heavy pressure particularly at stern and rudder—the latter was seriously damaged. Numerous large masses were sunk beneath the ship in the frightful melée in which we were engaged, when about 1 P.M. it temporarily subsided. She

then lay perfectly cradled in the ice, huge masses of it having been forced under her keel, which raised her three feet at the bow, and upwards of five feet at the stern. Masses of flinty hardness still pressing heavily on the port side, banked us up between them and the berg, which threw the ship over several degrees; and thus in utter helplessness we awaited the next movement. In the mean time, the state of the rudder demanded our attention—it was already seriously damaged, and its safety still further jeopardized by the heavy blocks of ice that surrounded it. To unship it was then our object, but from the ice having got under and around it, so as to completely block it up, this became a matter of extreme difficulty. Some of the ice was removed by pickaxe and ice chisels, but it was ultimately found necessary to have recourse to gunpowder for clearing away the remainder; and blasting under the stern was then commenced. After some hours work, we succeeded in extricating the rudder; this ponderous, unwieldly implement was placed on the ice, and the carpenters commenced the necessary repairs.

The next object that attracted our attention, was a grounded berg piece, as large as that to which we were attached, lying directly in our course astern. Against this, on the next movement of the ice we should immediately have been borne, and inevitable destruction would have attended our coming into contact. Consequently, to weaken, or if possible break

up this great mass of ice, became a matter of great import; and preparations were made for blasting it, although it was then only a few yards from the ship. A charge of twenty-six pounds of powder was placed deep in its substance; on exploding, we were afforded the satisfaction of seeing it fissured directly across, while several of its fragments were thrown on the deck. Some smaller charges were then used with similar results, and although the mass remained immovable as a rock, the little damage it had effected rendered it, in our opinion, less formidable.

We continued to watch the ice with intense anxiety throughout the day. A large floe of some miles in extent appeared in motion, about a third of a mile to seaward of our position; doubtless, in a great degree, the cause of the pressure to which we had been subject. As the outward or seaward margin of this floe could be discerned, the ridges of heavy ice, which were packed along it, indicated the gigantic force at work.

At 8.30, the carpenter having repaired the rudder, we were busily engaged in placing it in a safe position slung across the stern, and had just succeeded in doing so, when the ice was again observed in motion.

We lay not only helplessly fixed, but absolutely embedded, borne along amidst the appalling commotion of huge masses grinding and crushing each other, still nearing the shore, and approaching the berg, from which we were then not more than a few

feet distant. Every man stood firm and silent at his post, with a knapsack at his side. The sick I had ordered to be brought on deck, that in the event of the ship being suddenly crushed, they, too, might have a chance of escape. Nothing was heard but the dismal sound of the ice around us. We slowly but steadily approached the berg, against which our stern post at length came in contact The pressure continuing, every timber of the ship's solid framework loudly complained, and we momentarily expected to see her nipped in pieces, or thrown upon the beach. Most fortunately, however, the destructive effect of the blasting, so judiciously had recourse to a few hours previously, then told in our favour; as the mass opened in three places, their fragments separating from each other, diminished the power of resistance, otherwise our fate would have been at once decided. At the moment of coming in contact, the continuance of the pressure carried away the stream chain, broke one nine, and two six inch halsers, as if they had been whip-cord, stove in our strong bulwarks, crumpled up the copper as if it had been paper; at the same time, it swept the ship's bow towards the beach, elevated her a few feet, and threw her over on the port side eighteen degrees. The direct force of the pressure became thereby diminished, and when in breathless anticipation of being driven on the beach, that catastrophe was averted by the interposition of a Merciful Providence. The motion in the ice then

suddenly ceased, we having been borne helplessly for a short distance further along shore, in close contact with the broken up berg.

At the moment the halsers were carried away, Captain M'Clure gave orders to let them go, that the ship might be thrown on the beach, to afford us shelter during the winter, instead of being crushed, and sunk, as we expected.

I can never forget the sensation I experienced during the short period of this terrible conflict. Every timber in the ship groaned in the most direful and ominous language of complaint, the masts shook, and as I stood on the quarter-deck, the planks beneath my feet vibrated, as if in the act of starting up. I put my hand on the capstan, about to spring upon it for safety, when the pressure suddenly ceased.

At the onset of the pressure, the captain's steward happened to be in the cabin when the pressure was most severely felt, and fancying the timbers were coming about his ears, seized the captain's knapsack, rushed frantically on deck, where we all stood, he apparently without the power of utterance, gazing wildly around in utter amazement at the scene before him. Notwithstanding our situation, the men could not suppress their merriment—little adapted as the occasion was to excite it—but I must say I never saw such a picture of terror as he then presented.

We found the ship had been carried from ten

fathoms water into three and a half; but was no where in contact with it, as she was still perfectly cradled in the ice. In this state we remained, not knowing what might happen in an instant. All hands were ordered to keep their clothes on for the night, and have knapsacks in readiness for any sudden emergency. The evening, one of anxiety and watching, closed in cold, wild, cheerless, and squally.*

On the morning of the 30th, there was no change in our situation. The night was passed in comparative quietude, the ice being stationary; the huge masses, many forced high upon the beach, were piled up between the ship and the shore, fully testifying to the extent of the pressure. The day was occupied in working their destruction by blasting, by pickaxe and all the usual ice implements, with a view of making a good bed for the ship, in the probable event of her being thrown on it; and likewise a road to the shore, then not more than sixty yards distant. The gunpowder, in every case, did its work well, in fissuring

* I cannot forbear from alluding to the admirable manner in which the ship resisted the pressure to which she was exposed, which was entirely owing to the excellent and scientific principles on which she was strengthened by William M. Rice, Esq., the present talented master-shipwright of Woolwich Dockyard, by whose plan and under whose superintendence the 'Investigator' was fitted for Polar service. This gentleman's name was frequently mentioned with grateful feelings during our long and eventful voyage, when our safety so often depended on the strength of our ship.

and breaking up these obstacles, so as to render their removal a matter of easy accomplishment. The charges varied from 2 to 42 lbs. according to circumstances. Although gunpowder can never be considered an agent capable of effecting the advance of a ship through an ice encumbered sea, unless to lead into water where there is space enough for the fragments to find their way, or be moved into; yet we found it very valuable in removing temporary obstructions in the form of projecting tongues, when our position was very much incommoded by packed ice and in relieving pressure. It must, therefore, be considered a most powerful auxiliary in navigating icy seas, when judiciously used in quantities sufficiently large to effect its object. The blasting kept up an acceptable degree of excitement throughout the day; and the appearance of our men on the ice, like so many engineers, sapping and mining, presented a feature of some novelty.

The ice mate reported on the 31st, that a small space of water could be seen outside the floe already mentioned; this could not in any way serve us, as it merely indicated the diminution of the pressure in that locality.

The commencement of September told us that, under the most favourable circumstances, the season for navigating an ice bound sea was drawing to a close. It was not difficult to believe that ours had passed, unless a recurrence of something similar

to what we had lately passed through, set us again in motion, and caused us to make a more intimate acquaintance with the beach than was desirable. The first operation of a ship going into winter quarters was now commenced, (as many believed we had then reached ours,) by making a fire-hole, in doing which we had penetrated seventeen feet of closely packed ice before reaching the water—the depth of the cradle in which the ship lay. The weather continued cold and raw, with snow and strong north-westerly winds. All the birds appeared to have forsaken us, as we had seen none for some days; and with September, winter appeared to have arrived. Our men were variously employed collecting drift-wood along the beach, for the distance of a couple of miles, accumulated in quantity sufficient for a party travelling along the coast, but not sojourning on it. Others were occupied collecting stones from the neighbouring hills, and stacking them on the beach for ballast, that, in the event of this locality proving to be our winter quarters, they might be made available for the following season. From the fact of our having collected here fifty-five tons of ballast, subsequently left behind, it was afterwards known by the name of Ballast beach.

We still continued our shooting and exploring expeditions with much eagerness, but trifling success. A few Ptarmigan occasionally rewarded our labours. A beautiful specimen of the Jerfalcon

(*Hierofalco Candicans*) was shot on the 5th, when flying over the ship; several were seen at the close of this and subsequent seasons. They are a great enemy of the Lemming (*Mus Hudsonius*) that were abundantly met with on this land. On the 9th, a Bear, with two cubs, were observed from the ship, on the ice, coming towards the shore; after wandering about on the floe for a short time sniffing the air in their usual style, they sagaciously betook themselves to flight, and spoiled our anticipated sport. A black Fox was also seen by one of our men, on the land, (the first of that species we had met with) but which fled at the report of his gun, when firing at a small pack of Ptarmigan. Another Bear was encountered upwards of a mile inland, by two men, who wounded him, and hastened his journey to the beach, whence he proceeded over the ice. This was the first instance of this animal having been met inland.

The ice remained stationary until the 10th, when a strong southerly wind set in, having moved round from the eastward, which caused the temperature to rise from 25° to 39°—the sky cloudy and overcast with passing showers of rain. These favourable circumstances began very soon to manifest their effect on the ice. At 8 A.M. a lane of water was observed about half a mile to seaward of our position, extending from west to east, for three or four miles, gradually increasing as the ice opened out, which was drifted off by the force of the wind then blowing off

shore. Towards noon, so rapid had been its progress, that about 600 yards to the eastward, the water extended continuously from the shore to the pack edge, then distant about a mile, and as far along the coast as could be discerned; but for the remainder of the day it made no nearer approach to us—steadily increasing its area, however, in other directions. We could only hope for a continuance of these influences, to enable us to take advantage of the fine space of open water. The ice had remained quite stationary around, but at 1 P.M., owing to the continuance of the thaw, and from the effect of the tides, it had cracked along the beach, and would easily detach itself on a slight cause—that outside the open water, could be seen setting steadily to the eastward. This change came on us unexpectedly, and the sanguine few who could not be convinced, that we had reached our winter quarters—exulted in the prospect, I must say, apparently with good reason.

A Gull and Raven hovered around us the entire day—the latter we had not seen since that eventful morning we bore up from the Strait of Prince of Wales. Towards midnight, when the quarter-master of the watch (Henry May*) went out to examine the

* This fine old fellow was the patriarch and Mentor of our crew, had served in former Expeditions, where he proved himself as invaluable as he did to us, by his correct and steady conduct, and the influence of his good example amongst the men. He has since served with me in H.M.S. 'Cornwallis,' where he well

tide-pole, from inability to steady it, he found some difficulty in taking the observation, and on looking round in the darkness, saw open water, only a few feet from him, extending to the shore, and the ice in which we were fixed being gradually borne off—the first intimation we had of the circumstance. The wind was then blowing with the force of a gale—the night was dark and tempestuous, and as we were carried off towards the pack, we anxiously waited for daylight.

The morning of the 11th found us drifting steadily to the eastward, about one mile off shore on the pack edge; still beset in that which had borne us off and about twenty-five yards from the in-shore water. From the mast-head, water could be seen extending along the land to a distant point, (subsequently called Cape Colquhoun) off which the ice seemed to be packed, from the presence of a shoal, as was supposed. Beyond it no land could be seen, but a strong ice blink* showed itself, from which it appeared that the coast line trended to the south-east. Some of us were most anxious that we might be freed from the slight barrier that lay between us and the water, and run down with a fair wind as far as possible to the Cape, whence it extended; with the hope

maintained the character he had previousiy earned, of being one of the most respectable and trustworthy petty officers in Her Majesty's Navy.

* The dull, whitish appearance, the sky presents over ice.

fairly entertained, of rounding it; rather than be drifted in the pack, where from any sudden change of wind we might have been fixed, perhaps never to be liberated—for once carried off the land for a considerable distance into the great Polar pack, I believe the chances of a ship regaining it again, are but small; it was not however deemed judicious to do so. As we were anxious to get to the eastward, it may seem strange that advantage was not then taken of the water which led to Cape Colquhoun; for if we ever intended to round this point, we could not possibly have had a better opportunity of doing so; and a position off that part of the coast was not worse than any other, as they were all equally full of peril. No means were employed to release the ship until 1 P.M., and then it was nearly too late, for the wind changing to the westward, brought the ice rapidly from that quarter, and as rapidly did it become packed to the eastward, closing up the much desired space of water, and cutting off our chances of escape to the shore, even when freed from our imprisonment in the pack. At this hour we made sail in the hope of breaking up the floe, set fresh anchors, and hove on them at the capstan. Other expedients were resorted to, but in vain —the ship did not move in the slightest degree. Recourse was then had to gunpowder; several charges from fourteen to fifty pounds were sunk beneath the floe, and in every case succeeded in completely breaking up the packed ice, in which we had been

so perfectly cradled on the night of the 29th of August.

It was marvellous to view the quantity of ice that made its appearance at the surface, when compared with the small area of that destroyed, which packed and adhering to the ship's bottom, was completely detached by the blasting. At 4.30 the ship was liberated, the canvas alone being quite sufficient to get her under weigh; thus affording strong evidence of the superiority of gunpowder over the saw—the only other means that could have released us, and then only after immense labour and much loss of time. So rapidly had the ice set down and packed about us, that we were obliged to cut the halsers for more speedy liberation; when we stood in along its edge, rudderless, striking it occasionally—and a few minutes more might have fixed us in the great Polar pack, through our tardiness in commencing operations.

At 5.30 we neared the shore, shortened sail, and again made fast to a large piece of ice, when a halser was laid out to a heavier piece, grounded in shore in ten fathoms water, about one hundred yards distant, to which the ship was warped and secured at 6 40 P.M., with one nine, six, and four inch halsers, about sixty yards from the shore, with ice of the last year's formation intervening.

Soon after we were secured, there was not a speck of open water to be seen, and the ice was still drifting to the eastward. At 9.30 our situation was again

rendered very critical by a heavy floe coming violently in contact with the western end of that to which we were attached, turning it partially round and nearer the shore. The same force acting against the ship, caused the anchors to draw, and gave her an inclination of twelve degrees, at the same time carrying her from ten into seven fathoms water; but about ten yards nearer the beach there were only two fathoms, so that a continuance of the force must have forced us upon it. Thus again did our safety depend upon remaining firmly secured to the ice, whose integrity was threatened momentarily. The four inch halser was carried away, the stream chain laid out with an anchor; and until midnight every man was occupied in using his utmost endeavours to add to the general security, as far as it lay within human power. We remained clad and booted as before, prepared for a start, scarcely venturing to leave the deck for a little temporary rest. The wild and cheerless aspect of everything around was heightened to a degree, by the increasing gale from the westward, howling amid the darkness and gloom of this tempestuous night.

On the morning of the 12th, the force of the gale had in some degree subsided, and daylight revealed our extremely hazardous position—exposed to all the winds, quite unsheltered and unprotected, with the mounds of shingle forming a continuous embankment along the beach. The floe which was the source

of so much trouble and anxiety the previous evening, was stationary on our outer side, and would again assail us, (in the event of a northerly wind setting in,) and force us on the beach. In the evening we were gladdened by the sight of a flock of Ducks going to the eastward, and a Fox and Snow Owl were seen on the land—the latter identical in character with the one formerly described.

A fall in the barometers on the previous evening, foretold the advent of a southerly wind, on the morning of the 13th, which then blew from the south-east, and soon afterwards a lane of water opened about eighty yards from the ship, extending due east and west, with the ice in the offing drifting to the westward, while that in our vicinity was quite stationary. Towards noon as the wind became south-west it resumed its easterly drift, and a short distance from the ship it was loose sailing ice, which, could we then have reached, our progress to the eastward might have been considerable—the drift being estimated at upwards of a mile an hour. Notwithstanding the favourable aspect of the ice for a further advance, at an early hour in the morning, it was deemed either unnecessary or injudicious to adopt any means to liberate the ship, until 2 P.M. when a small cask of powder was placed beneath the outer barrier, which its explosion fractured; but this did not release us. The necessity of adopting all possible means to liberate the ship, became then evident, as it was

tantalizing to view, only fifty yards distant, such a fine space of open water for an easterly advance, had we been prepared to take advantage of it. Our reliance entirely depended on what gunpowder could effect. A heavy charge of 250 pounds was placed in a rum cask, and sunk under the ice, which was about sixteen feet thick, with five fathoms of fuse attached, and exploded. The report was tremendous, and the shock was felt throughout the ship—only about twenty-five yards distant. Its effect on the ice was admirable, smashing it in every direction, and casting numerous fragments on board—the grounded ice to which we were secured varying in thickness from thirty-five to sixty-seven feet, was rent in several places. This was the largest charge that had ever been used in ice navigation.

The greater part of the obstructing floe was broken up, or fissured in such a manner as to be easily set adrift; which the entire available strength of our ship's company, armed with handspikes or some equally effective implements, shortly effected, much to their own amusement; as they floated on the larger pieces to detach the smaller ones that obstructed the exit of others still greater in magnitude in the rear. Several smaller charges of powder were successfully exploded nearer the ship; still she remained motionless. We then made sail, and hove all aback with a view of loosening her attachments. Anchors were laid out and hove on at the capstan, and the usual

expedients of sallying &c., had recourse to. After some time, our efforts were crowned with success, the ship became released, and buoyant, once more ready to move under her canvas. Unfortunately darkness now set in, the wind became westerly, the night looked wild and tempestuous, and rain fell heavily in the squalls. It was, therefore, not considered prudent to venture out into the pack. The ship was, therefore, again secured to the floe at 9.30, and the men were ordered an extra allowance of meat and spirits after the labour of the previous eight hours.

The quantity of powder expended in blasting, during the day, amounted to 466 pounds. A few small fish (*Cottus Polaris*, and *Cottus Quadricornis*,) which were killed in the water from the effects of the blasting, were thrown up on the ice. The temperature rose to 43°—remarkable for the advanced season of the year. Two flocks of Ducks and some Snow-Owls were seen, and we were again visited by the ominous croaking Raven, which some of our men affirmed, had followed us from the Prince of Wales Strait.

On Sunday, the 19th, the wind described a course round the compass, ultimately settling into the south west, the ice still drifting to the eastward. It was not until noon that preparations were made for shipping the rudder, but the ice being so closely packed about our stern-post, we were obliged to have

recourse to blasting, which removed it. About 6 P.M. the rudder was partially shipped. Since the casualty of the 29th of August, it had not been in use, and was found to require some further repair, which caused considerable delay. About this time, a lane of water had opened from our position, extending east and west, with the ice still in motion to the eastward, but unfortunately the same causes existed that prevented our departure the previous evening. Darkness set in, the wind became westerly, rain and snow fell, and the night wore an exceedingly wild and threatening appearance. At 9.30, the pack began to close with the shore, and in half an hour we were again blocked up, with no water anywhere to be seen.

The following morning, the 15th, brought with it no improvement in our prospects. A cold north-westerly wind blew, the land was nearly everywhere covered with snow, and the temperature fell to 14°—which looked much like the advent of winter. The second master and ice mate were dispatched to examine the coast-line, and state of the ice to the eastward of Point Colquhoun, about five miles distant; and returned in the course of the evening. From this point they observed the coast trending to the E.S.E., with very heavy ice packed on the shore, and huge floes to seaward, but no appearance of bay or harbour was to be seen. They shot a few

Ptarmigan, and saw numerous tracks of Bears and Musk Oxen.

Several of our people had given up hope of doing anything more this season, and the rudder was again unshipped with but little apparent chance of using it again. Nothing could have presented a more dreary aspect than this locality then wore; still we hoped for a better fate than a winter's sojourn in such an abode.

CHAPTER XVII.

Weather—Favourable State of the Ice and Water—Preparations to start—An Opportunity lost and Results—Departure from the Floe—Progress and Retreat—Currents—Ice in Motion—Critical Position—Pressure—Its Effects—Point Colquhoun—Progress and Incidents on the 20th—Drifting—Perilous Drifting—Cape Wrottesley—Position—Cape Austin—Difficulties—Ship secured—Cape Crozier—Prospects—Geological Character of Coast—Inferences—Dangerous Character of the Coast—Progress on the 23rd—Incidents—Weather—An Ice Barrier—Our Passage through it—Aspect of Evening—Ship on Shore—Measures adopted—Their success—Fortunate Escape—The Night.

THE weather wore the same gloomy aspect on the morning of the 17th of September; the wind had changed into the east-south-east quarter, whence it blew fiercely, with frequent squalls, and the temperature rose from 11° to 21°, which led us to hope, with fervour, that a change might yet take place in our position. The ice remained stationary throughout the day until 7 P.M., when a lane of water unexpectedly and noiselessly opened about eighty yards

from the ship, where the pack had closed on the 14th, which continued to increase for the remainder of the evening. A six-inch halser was laid out on the port quarter, to add still further to our security, and prevent our being drifted out. This event was hailed with pleasure, and we anxiously waited to see how far we might be able to avail ourselves of it in the morning.

The anxiously looked for 18th came: the wind from E.S.E. had increased to a gale; the extent of open water had also much enlarged, and varied in extent during the day, from one to four miles in the evening. There was no ice in this, and it extended east and west as far as we could see, and round Point Colquhoun. The temperature was steadily rising, the wind gradually veering round more in our favour, and we were only about seventy yards distant from the water. In this state of affairs nothing was done until towards noon, when a party of men were sent to clear the ice from the stern post, and ship the rudder, which, at 2 P.M., was accomplished. Preparations were then made for blasting the ice intervening between us and the water, which had, a few days before, blocked up the entrance of the little dock we had previously formed for ourselves. The loose character of the ice caused the expenditure of only sixty-six pounds of powder for its removal.

At 4 P.M. the ship was free—not a particle of ice

on the lee or seaward side; she only required the canvas to put her in motion, and we prepared for getting under weigh. The topsails and spanker were double-reefed, and the halsers and ice-anchors brought in; the stream-chain alone securing us to the floe.

Thus, all things being completed for a start, we could not but rejoice at our singular good fortune in having such a fine expanse of water to work in, at such an advanced season of the year; and were once more elated by the pleasures of hope, notwithstanding we had suffered so often from disappointment. Such was the case this evening: the preparations we were so joyously making were suddenly ordered to be suspended, halsers were again laid out, sails furled, and the ship secured as before—the wind being considered too strong to effect much in working to the eastward, although the water at the time, with the exception of its surface being rippled by the wind, was as smooth as a pond.

Thus was another splendid opportunity of making easterly progress lost. Our proceedings, in not taking immediate advantage of the chances we had of creeping along the coast, since the 10th of September, appeared, at this time, characterized by a degree of indecision, entirely at variance with our previous operations. We seemed willing to go, but loath to depart. Had we promptly taken advantage of all the favourable circumstances that presented, and which I have truthfully narrated, exactly as they

occurred, we must have been many miles distant from the position we then occupied. There was no safety in this position we could not have enjoyed, in a greater or, at least, an equal, degree, on any other part of the coast, which could not have been much worse; indeed, I am sure there was nothing in the locality that should have made us so attached to it. I am firmly of opinion, that our tardiness on these several occasions, where an easterly advance, however trifling, was of vital consequence, and when opportunities occurred for making it, exercised a fatal influence on the voyage of the 'Investigator.'

On the morning of the 19th, the wind continued from the same quarter, but had moderated considerably during the night. At length, at 3.45 A.M., the ship was cast off from the floe; we made sail, and were soon standing out towards the pack edge, between which and the land-ice we continued working to the eastward—all in high spirits at the fine sea of water which everywhere met the view. The land-ice, off which we tacked, formed a regular line of outworks along the coast, and was of a very heavy character, giving evidence of its having been subject to tremendous pressure: huge pieces, hundreds of tons in weight, were seen thrown up on end, while others equally large had been forced for a considerable distance up the escarpment of a coast line, in some places inclining not more than ten degrees from the perpendicular.

Towards noon, the wind fell light, and changed into east by north, soon after which it quite died away, so that we could make no progress by tacking. At 3.45 P.M., orders were given to bear up, as we stood towards the land-ice, where there was a perceptible current setting in our favour to the eastward, and after running against it to the westward for about three miles, over the space it had cost us so much toil and trouble to work the ship in the morning, we shortened sail, and made fast to a large floe, grounded in nine fathoms water, with a five-inch halser at bow and stern, and about 500 yards from the shore; deeply regretting our lost opportunities, when every foot of easterly advance was invaluable, but utterly unable to explain the reason why.

Our situation was then extremely exposed and dangerous—so is every part of this coast—from being quite unprotected to seaward, whence the ice might at any moment assail us, from any slight cause.

At 6 P.M., when I left the deck, the pack edge could be discerned a few miles to seaward, with a tranquil sea interyening; half an hour afterwards all hands were piped on deck, and to our horror and amazement we saw the ice setting rapidly down towards us. The tide or current, which we had before observed, then swept past the ship to the eastward, at an estimated rate of upwards of two knots an hour, bearing with it those detached heavy floes it had carried off the pack-edge. These were then borne with fear-

ful velocity upon the ship, grinding against her side with such violence that the anchors drew, the starboard bulwarks were stove in, and her stern came in contact with a projecting piece of the floe, raising her fourteen inches out of the water, and momentarily threatening the safety of the rudder and stern post. These masses, after inflicting the mischief, and meeting with no opposing obstacles, passed on, only to make room for others following in quick succession. Our first object was to add still further to the security of the ship, lest she should be carried away by these continual assaults, and her future management taken again out of our hands, unless we had felt disposed to let her drift with the ice to the eastward. But such not being our intention, she was warped to a small indentation in the floe edge a few yards ahead, whose projecting point would, in all probability, ward off some amount of the violent shocks to which we were then exposed. This being accomplished after much labour, we were secured to the floe with a stream chain, and a nine-inch halser at bow, and a five and six-inch halser astern. As nothing further could be done for our safety, we could only await in silence the result, ready to avert, if human power could do so, any sudden casualty that might occur; and as it was again quite a calm, the ship could not possibly be managed under canvas.

It was truly appalling to witness the effect of this current—the most rapid we had seen in the Polar

Sea. I could compare it to nothing more real than that which may be seen in a tidal harbour, where small floating objects are borne in its stream with velocity, at the same time that they are turned and wheeled about by numerous eddies in their course. Such was the effect it had on the ice, and these huge masses setting down on a ship, so unprotected, and helplessly placed as was the 'Investigator,' as they came singly to the attack in quick succession, presented a prospect of peril no words of mine can describe; but the recollection of which can never be effaced from my mind. From this danger a beneficent Providence had again interposed to shield us.

We found we had gained by the day's work about six miles, and had rounded that point, (Colquhoun), from whence the coast takes an easterly trending, without the slightest curve or indentation that could afford shelter to a ship, with the ice everywhere fearfully packed along its shores. Notwithstanding the perils of the day, we heartily rejoiced at the easterly progress we had made.

Two Whales were observed in the morning going to the westward at a leisurely pace, and as we readily indulged in any hope that favoured our wishes, we inclined to the opinion that they had come from the eastward, where open water existed. The temperature kept tolerably high, from 26° to 32°, and the weather was fine with partial fogs.

Early on the morning of the 20th we were again at

work. The weather had undergone no change, but the wind gradually drew round to the northward, and towards evening became westerly. The ice continued still drifting towards the eastward, and at 4 A.M. the ship was cast off from the perilous position on the floe edge we had occupied during the night; but being unable to use our canvas, she was warped to a large floe drifting to the eastward, to which we linked our fate; changing our position from time to time, by warping along its edge, to avoid the collision, to which we were momentarily subject, and frequently sustained, keeping as near the land ice as possible.

At 10.30 we had reached another point of land about ninety feet high, similar in appearance to the one we had passed the day before, and to which the name of Wrottesley* has been since bestowed—against this the ice was thrown up in a most wonderful manner, buttressing it nearly to its summit. About 1 P.M., the wind having become light and variable, we made sail to a light breeze, at the same time, aiding our advance as much as possible by warping. While doing so, however, we lost the land ice, and got fairly into the labyrinthine meshes of the pack, which we were most anxious to avoid; more particularly as we saw it steadily closing on us since the morning. In this position, we made every effort to regain the land ice by warping, grappling, &c.,

* In compliment to the present noble and distinguished President of the Royal Society (Lord Wrottesley).

but to little purpose. The canvas was of no service, as the wind had died away. The ship was completely blocked, and in this predicament, the main pack gradually closed on us; to which the ship was temporarily secured, and borne with it for a short distance to the eastward.

We were thus again placed in a most hazardous position, being steadily drifted, by a power so irresistible, that in the event of its meeting with any slight impediment or resistance to its onward progress, the ship would inevitably have been crushed. One of two courses, therefore, were open to us for adoption—either to cut or blast a dock in the floe to which we were attached, wherein we might have drifted with comparative safety a long distance to the eastward, with the chances that might subsequently occur of getting into open water, or, to detach ourselves from it on the first opportunity, and endeavour to regain the land ice. The latter was adopted. An opportunity of escaping soon came. Having met with a narrow lane of water, the ship was cast off, and we immediately commenced, by warping, to regain the in-shore ice. It was not, however, until 7.30 P.M. that we succeeded in securing the ship to this immoveable barrier. After such toil and exertion as it had cost us to reach it, the men were refreshed with an extra allowance of meat and spirits.

The position we had gained was as good as could be expected off a coast where neither safety nor shelter

exists, well secured to the grounded ice about half a mile from the shore, and at an equal distance from a fine Cape which we had in vain endeavoured to reach; and with a heavy barrier of ice which had just been thrown up, grounded in twenty-nine fathoms on its outer side, and ten and a half on its inner, some twenty feet above water to the westward; partially protecting us on that quarter from whence most danger might be apprehended. Thus we lay, anxiously awaiting the events of to-morrow.

We had the satisfaction of seeing no unfavourable change in the weather on Sunday morning the 20th, when at 5 A.M., we got again under weigh, and made sail, keeping off the land ice. This, together with warping, enabled us to reach the base of a fine, bold Cape, subsequently called Cape Austin,* against which the ice was then packed; hoping that a few hours would afford us open water for another advance, however small. We took advantage of this delay for the performance of Divine Service, with heart-felt gratitude to the Giver of all good, for the merciful protection He had so signally bestowed on us. Immediately after, at 11 A.M., the ice having opened out a little,

* So called in compliment to an officer who had already gained distinction in these seas (Captain Horatio Austin, C.B.), then in command of an Expedition to the Eastward. The name has, I find, been changed since our return, and that of "McClure" bestowed on it. The original name is retained in the accompanying chart, being so named in Captain McClure's despatch.

we again made all plain sail to the eastward, as the approach of a heavy floe of great extent setting down and threatening our position from the westward, necessitated our speedy departure. Our slow progress was much impeded by the ice, and a light variable wind; as the latter soon became easterly, and the former was gradually closing, warping was had recourse to—but all to no purpose. We could not make the slightest advance, and the steady approach of that from which we had fled but a short time before, rendered it necessary to retrace our steps for a short distance along the edge of the land ice to a place of security. The ship was accordingly warped to a small indentation in it, nearly her own length, which, with the aid of gunpowder was in a very short time converted into a nice little dock, with projecting angular bulwarks at bow and stern. In this retreat the ship was secured at 6 P.M. for the night, with a stream chain, and two ten-inch halsers. Towards midnight, the ice opened out considerably about us, setting slowly to the westward; but as we were just within the line of Cape Austin, and a twin headland of equal boldness and grandeur about a mile apart, it was not improbable that the easterly current passing outside might form a sort of eddy in this shallow bay.

We had on this day made nearly a mile of easting, slow as was our advance, our spirits never flagged; for we were sustained by the hope that each successive day would bring with it more cheering results.

On the 22nd, the breeze still continued from the eastward, ultimately setting into the south-east; but the weather was generally of the same character—the temperature rose in the course of the day to 37°, which was what we so much depended on for further success, aided by southerly winds. At 6.30, the ship was warped out of dock, and along the land ice as far as it was possible to go until noon, when she was again secured immediately under the second headland, which was subsequently named Cape Crozier.*

Captain M'Clure, with the second Master, had a short time before left the ship in the third whale boat, and proceeded round the Cape to ascertain the state of the ice. They returned in about an hour, with the pleasing intelligence, that it was slackening off shore, and that with the continuance of the fresh southerly breeze, it would soon afford space sufficient for a farther advance. Before this change took place, however, night set in, and we remained in our position, patiently awaiting the coming daylight; having made about half a mile of easterly advance during the day.

The Geological character of this coast line from Ballast beach to Cape Crozier, while it fully partook of an Arctic aspect in the highest degree, likewise presented some features of interest. The remarks formerly made with regard to the land

* To perpetuate the memory of Captain Crozier, the brave and worthy companion of the gallant Franklin.

in the vicinity of Ballast beach, are applicable to the coast line as far as Point Colquhoun, which is the first prominent point met with, is of limestone formation some eighty feet high, and was the first of a rocky character seen, since rounding the southern extreme of the island. About five or six miles further to the eastward, a similar but somewhat more lofty point exists, (Cape Wrottesley) the coast line intervening, forming nearly a straight line of barren, undulating hills. It is of similar formation (limestone) about 100 feet high, presenting an irregular and ill-defined line of stratification on its western side, dipping at an angle of about 15° to the north-west; but on its eastern side, as it loses its geological character, and becomes identified with the ordinary coast line, the stratification, instead of following the south-east inclination of the land, is thrown into a series of semi-circular lines, which again become angular or zigzag before their continuity is established with the line of stratification at the highest point, about its centre. It is the most northern point of Baring Island, is situated in lat. 74° 30′. long. 121° 30′ 50″ W., from whence the coast line assumes an E.S.E. trending, until it again juts out in the fine, bold headland of Cape Austin, which forms a grand and imposing feature in the outline of this dreary and unprotected coast. It is about 400 feet high, while a profile view gives it an inclination of some ten or twelve degrees, falling back in ledges

with the debris forming a buttress at its base, extending upwards nearly a third of its height; yet, when viewed from the front, it appears quite vertical, and the desolate grandeur of its appearance was wonderfully striking from the perilous position whence we viewed it. Projecting through the debris, I could observe the more prominent angular portions of its lower formation, dipping in a slight degree from its centre on either side in a south-west and south-east direction, and they appeared to be composed of shale and a sort of slaty sandstone. Above and surmounting the debris, it is of an ill-defined columnar structure, apparently limestone, fissured and broken up extensively, with no well-marked line of stratification; only what a slight change of colour here and there presents, which was uniformly brownish grey with a ferruginous admixture interspersed throughout. Its general aspect much resembled that of Nelson's Head, but on a much smaller scale, and formed like it; a grand turning point on this part of the coast. The outline assumes a convexity like the walls of a lofty fortress, the rocky structure being preserved for about 600 yards, until gradually lost in land of the usual hilly, irregular character. This takes a slightly crescentic form from its trending to E.S.E. and again shoots out in a north-east direction, completing the crescent of a shallow, shelterless bay, and ending in another bold headland, similar to, but somewhat less elevated than, Cape Austin. This fine Cape appeared

identical both in appearance and structure, with its confrère on the opposite side of this little shallow indentation, from which it is about three miles distant, and is possessed of the same convexity of outline, with much of its grand, imposing aspect, although in a less degree. It is elevated about 340 feet—its front, I may say, quite vertical, falling away on either side, identifying itself with the land like the other; and in structure it is of an ill-defined, broken columnar character, extensively fissured in a horizontal direction, resembling a state of progressive decay and dilapidation. Much debris was also collected at its base; its lower formation was slate and shale laminated and fissured, and was surmounted by limestone of a columnar form, with well marked lines of sulphureous and ferruginous deposit extending transversely along its front. The decomposition of this compound, probably taking place on its exposure, fully displayed the well marked colour of both; which, when contrasted with the dark grey of the formation, imparted a stratified and divisional appearance to the whole.

As circumstances did not allow of my visiting this Cape for more than a few minutes, my examination was necessarily confined to the debris, which entirely consisted of carboniferous limestone, in pieces or blocks varying in size from several hundred pounds weight to minute fragments. I found numerous specimens of fossil uni- and bivalve shells, embedded

firmly in the limestone (embracing chiefly species of *Producta, Spirifer, Pecten, Cardium, Terebrutula, Buccinum,* and a few others, the generic characters of which were not then determined), together with pieces of wood of various sizes, from portions of small twigs and branches, to pieces two inches in diameter, embedded in the same manner as the shells. Some pieces were encrusted with a deposit of iron; others had a sulphureous covering, and emitted a disagreeable odour; but almost all looked black and charred, in an advanced stage of carbonization, as if partially burned; and displayed in numerous places, the true lustre of coal. The limestone fissured readily wherever the wood or shells were found in its substance—revealing them. Several pieces of very pure anthracite were picked up in the debris; and I have no doubt, had time permitted, it would have been found in greater abundance. I also remarked, that in the broken land intervening between these two Capes, the escarpment presented a dark, carbonaceous appearance, similar to what is observed in the neighbourhood of the coal measures; and what I had previously met with in Prince Albert's Land; but I was unable to make a personal examination, from the critical nature of the position we occupied. Hence we may infer, had time permitted a thorough exploration of the locality, that results similar to those obtained in the hills near Ballast beach would have been obtained. From the

identity, both in appearance and outline, of these two fine headlands, we may, I think, arrive at the analogical inference, that they are of the same geological character; not only as each other, but likewise as that of Nelson's Head, on nearly the same meridian, but at the southern extreme of the island.

There was nothing deserving the name of bay or harbour along any part of this coast, nor any protection or shelter for ships; and exposed as it is to all the fury and violence of westerly and north-westerly winds, it stands without a parallel, for the dangers of its navigation, in any part of the world. The appalling evidence we were afforded of the effects of pressure, caused by stormy winds acting on a trackless icy sea, as such was we had not witnessed in any other part of our eventful voyage, and baffles all attempts at describing—mounds being piled together to the height of upwards of 100 feet. Our passage along this part of the coast was a truly terrible one—one which should never be again attempted; and with a vivid remembrance of the perils and dangers which hourly assailed us, I feel convinced it will never be made again.

Daylight on the 23rd dawned on us most auspiciously, revealing to our delighted vision a most favourable state of matters, as regarded the relative disposition of land, ice, and water. The latter had increased to a great degree during the few hours of darkness, affording a space of about three miles

between the pack and the shore; and no ice could be seen to the eastward. The weather had changed but little in character: there was a moist, hazy atmosphere, light south-easterly wind, and a temperature of 35°. At 3.45 A.M. we left our position, and made sail, tacking, as requisite, to the eastward, between the pack and the shore, and sounded in water at 140 fathoms.

From Cape Crozier, the coast line still preserved its E.S.E. trending, with the same irregular surface as I have elsewhere observed. Several bold, sandy escarpments were observable, and the entrance to what appeared an inlet, the existence of which was subsequently proved—the first of the kind we had met with, but there was every indication of its being shallow, as ice was grounded off its entrance. The coast presented the same aspect until Point Providence was reached.

The wind having fallen light about 10.30, the boats were lowered to tow, and continued doing so for an hour, when a light breeze springing up from W.S.W., enabled us to set studding-sails, and we sped along most cheerfully. After doubling one or two slight projections of the land, we found the sea nearly everywhere clear of ice. Light streams of it could be discerned off the pack edge, and a narrow margin bordering the shore; but there was no obstruction whatever to our course.

The land, as we proceeded, became still more elevated and broken. High ranges of hills, moun-

tainous in character, appeared far in the background, with apparently deep intervening gorges and ravines; the coast line was more irregular and indented, forming a few little bays, off which the ice looked heavy and grounded; and the water, I should say, shallow, affording no shelter for a ship, even should she succeed in passing the barrier of land-ice. The escarpment, while it was generally lofty and abrupt, rose in some situations with the usual inclination from the beach—nothing of a rocky character could anywhere be discerned. I observed, however, with the aid of a glass, that in one part of the coast, for the distance of one or two miles, it presented a dark-brownish appearance, with an accumulation of red sand extending along its base. Its front was traversed by numerous narrow lines or ridges, running horizontally, like lines of stratification, uniform in colour with the soil; as if formed of projecting ledges of sand or slate.

The continuance of partial fogs, with occasional snow, during the greater part of the day, rendered our view of the land more or less imperfect; at times obscuring it entirely from our view. At 5 A.M. the ice was reported from the mast-head as extending directly across our path, and closing with the land; water, however, could be discerned beyond it: this, the appearance of the sky fully verified—from which we concluded it could only be an extensive floe which had streamed off from the pack, but apparently of

the heaviest character. Our speed being then five knots, with a strong westerly wind, and a current in our favour, it was determined to run the ship stem on against the floe, with all plain sail set—the studding-sails having been previously taken in. This was a rash decision, and had it not otherwise been most Providentially averted, the collision would have been tremendous, and must have sunk the ship. When about 200 yards distant, and in breathless expectation of the coming crash, the ice was observed to open, as if magically, in our course, and on reaching it, there was just space sufficient for our unimpeded progress through it, in a narrow channel, with high walls of ice on either side. It was quite appalling to view it, being of a pearly blue, flinty character, combining antiquity with rocky strength and hardness, which must have been the growth of ages; and one could not but shudder on reflecting what would have been the result of our premeditated conflict with this icy granite.

After passing through this barrier in such a miraculous manner, we found ourselves again in a great expanse of water; the pack edge could be discerned to seaward; a heavy fog hung over the land along which we ran, night was closing in, and the wind was freshening with frequent snow squalls. We intended to shorten sail, and lay to for the night—the coming darkness rendering a further advance extremely hazardous under the circumstances of our position. As we

still proceeded, our anxiety was intense, and opinions were freely hazarded that Melville Island would be reached in the morning.

At 7 P.M., while standing on the forecastle with a few other officers, eagerly watching through the darkness for anything likely to retard our advance, the ship suddenly struck on a sandbank. The leadsman in the chains had just reported fifteen fathoms water, and strange to say, the next moment her bow was elevated eight feet out of water, with only six feet water under it, and three feet before the gangway, at about ten feet from the stern there was only eighteen inches while the stern itself was in five fathoms; and she was thrown over a few degrees to the port side. The soundings had thus given no intimation of approaching danger, and we lay about 600 yards from the shore—then quite shut out from view by fog—with some pieces of grounded ice intervening. We were in a great degree acting under the direction of Lieutenant Cresswell, as his observations led us to believe that we had passed the point of coast reached by him and his travelling party in the spring, and were following the trending of the coast, which, as we supposed, led uninterrupted by bay or inlet, to the south-east. This error was subsequently accounted for, by an alteration in the rate of the chronometer, when the observations were made; caused perhaps by the low degree of cold to which it had been exposed. We had only been congratulating ourselves on our

fortunate escape about an hour previous, and were speculating freely on the future when this unforeseen casualty occurred, and we found ourselves in the midst of new dangers, which threatened the safety of the ship in an extreme degree.

We had no sooner struck, than prompt measures were adopted to free the ship from her critical position. All hands were in a moment at work to shorten sail, after which we commenced to lay out anchors—a work, under the circumstances, of great labour and difficulty, which was successfully performed by Messrs. Wynniatt and Sainsbury; they were dropped to windward, and but a short distance astern, in seventeen fathoms. The second master, (Mr. Court), had previously been dispatched to sound, and reported deep water everywhere about the ship, except where she had struck.

On the return of the boats, all our strength was employed at the capstan, but after straining every nerve for some time, we failed to move her in the slightest degree. We were then obliged to lighten her in the bow, the forehold was opened, and nearly emptied of its contents, all the casks, &c., it contained, were hoisted up, and carried to the after part of the ship; provisions were got on deck, and other means had recourse to. While employed at this work, a heavy strain being at the same time kept up on the cables, a large piece of ice was borne down on us by the wind, which coming in contact with her side, swung the ship to

leeward, bore her off the bank, and at 9.45 P.M. we were again afloat, and brought up, with both bower anchors in six and a half fathoms. Our crew had been on deck, I may say the entire day, and after their recent severe work, required some refreshment; subsequently they were again employed in re-stowing holds, weighing stream-anchors, cleaning decks; and having altered the disorder and confusion into which everything had been thrown by this unfortunate occurrence, we were ready to take advantage of the first dawn of daylight to proceed, if possible, on our course. We had all been animated by the highest hopes throughout the day, notwithstanding this temporary check to their indulgence. Melville Island was still the great object of our wishes, and there was every probability that on the following day it might be reached—our distance from its known western extreme (Cape Hay)* being then inconsiderable.

This point once attained, we calculated on meeting little further obstruction along the northern shores of Parry Sound. Some of us even dared to hope and speculate on reaching England that season, advanced as it then was. We anxiously awaited for the coming daylight to ascertain our true position, and the relative

* This Cape had been nearly reached by Parry in 1820—the Strait intervening between it and the position we then occupied off Point Providence, a distance of about sixty miles, is the only part of the North-West Passage that has not been navigated in a ship.

disposition of the elements. The day was to us a most eventful one, and as midnight came, the night wore as wild and tempestuous an aspect as any of us had, perhaps, ever seen at sea. The wind had increased to a gale from the westward, which, while it brought some heavy loose ice about us kept the pack off shore; the snowy whiteness of the former presenting a strange feature in the scene, looming ominously in the darkness; while the cold raw atmosphere, the howling of the wind, the darkness of the night, and the chances there existed of the pack setting down on us, assisted to form a picture of Arctic cruising, which I cannot fully describe, but can never cease to remember.

CHAPTER XVIII.

Position on 23rd September—Resolution adopted—Enter the Bay of Mercy—Error in doing so—Reasons advanced for entering the Pack—Reflections—Results of our Voyage—A Second North-West Passage discovered—Dismantle Ship—State of the Ice—Reduction of Provisions—Observations on Polar Diet—Necessity of large allowance of Food—State of the Ship—Cold between Decks—Party despatched to the North and their return—State of Ice—Large Expanse of Water seen—Our inability to enter it—Pleasing Intelligence—First Reindeer killed—Evidence of Game on the land—Remarks on Reindeer.

THE 23rd of September was a luckless day for the 'Investigator.' The men had continued uninterruptedly at work during the night, and at 1 A.M. the ship drifted a little, when another anchor was let go in fifteen fathoms. The gale continued from the westward veering at times to W.N.W., but moderated with the advance of daylight. This period of the morning, so ardently wished for, at length came, and fully revealed to us our position; from which it ap-

peared that by keeping close to the land, we had been running into a deep bay; that the bank on the extremity of which we had grounded, formed a sort of crescent or horn at its north-western entrance extending about a quarter of a mile from the beach, and a good bulwark against the encroachment of ice on a ship, placed in the water inside and beyond it. The coast line along which we ran, trended to the south, and then sweeping round to the N.E., formed this extensive bay, which was then quite clear of ice, some twelve or thirteen miles in depth, its north-eastern boundary running directly across our course; its entrance, (Point Back), being exactly opposite to our position, and distant about seven miles. The land appeared of a hilly, lofty character, between which and our position, the appearance of shoals were reported from the mast-head; but we did not verify the fact by closer inspection. Mr. Court was then dispatched to sound the bay inside, south-east of the shoal, to ascertain its eligibility for anchorage; the ship following the course of the boat until 9 A.M., when we furled sails, and anchored in four fathoms, about 600 yards from the shore, and about three miles inside the bank on which we had grounded. It was, therefore, determined that this position should constitute our winter quarters, despite any change that might take place to favour a further advance, lest we should not succeed in procuring another so eligible as it was considered to be. At noon all work was

completed, and our crew, after nearly thirty hours continuous labour, were allowed to rest for the remainder of the day.

We were thus doomed to spend a second winter in the ice, after all the anticipations we had formed of reaching Melville Island; and, I must say, it was a sad and bitter disappointment to us all. Entering this bay was the *fatal* error of our voyage. This opinion I formed at the time, personally expressed it, and recorded it in my Journal; therefore, I could not be, in any degree, influenced by subsequent events; and, that the decision then arrived at, of entering this bay, was a hasty one, was fully established by its results.

We had, previously to our entering this bay, made no attempt to reach Point Back, although an open sea was before us. The reported existence of shoals, (which we did not examine), and the appearance of the ice, setting down on it from the northward, caused it to be considered not prudent to do so. Nor did we make any attempt to reach the pack edge, with a view of pushing through its loose ice, and endeavouring to get further to the north-east: although the wind had become more northerly, and was bringing the ice down with it. It was nothing more than what is termed loose sailing ice in our immediate neighbourhood, through which a ship might for some distance have worked her way, as the sea is at this time of the year, clearer of such impediments, than

at any other; more may, therefore, be accomplished in a few days, than in as many months at any earlier period. By doing so, we would have got fairly within the influence of the current setting to the eastward through Banks' Strait, and would have been further aided by the prevailing winds from the north-west. Although we might have been temporarily beset, we should still have been borne in the direction we wished to go, and as the pack opened out have got into one of its numerous lanes of water, that would have led us to Melville Island, then distant little more than fifty miles. Or, had we failed in doing this we might have been drifted such a distance to the eastward, as to render our getting through, on its breaking up in the following season, a matter of still greater certainty. Wintering in the pack, all Arctic navigators had hitherto viewed with the utmost dread; and though I admit it to be perilous and dangerous, our experience of the previous winter was satisfactory evidence that it could be done with safety; and this was, I believe, the first time the experiment had been made. Great and imminent as were the dangers which then threatened us, as well as in the late terrible passage we had just made, we had then become so accustomed to danger, and to encounter fearlessly the worst aspect this element could assume, that we viewed, without apprehension, the risks and chances of another winter in the pack, had it been so

decreed—so anxious were we to make the North-West Passage in the ship, and bring the 'Investigator' in safety to England. I am, therefore, firmly convinced, that had we not entered this bay, but boldly pushed into the pack, it would have led to a consummation of all our ardent hopes and wishes.

There are few states of mind from which one cannot draw some degree of consolation, however great may be the disappointment or deep the regret; and we then drew largely on ours. It was, however, satisfactory to reflect that, although the ship had only been actually under weigh for five days during the season, we had prosecuted the search over a wide extent of coast line, and added largely to Geographical science by establishing the insular character of Baring Island, besides discovering a *second* "North-West Passage" between the Atlantic and Pacific Oceans, in a direct line through Banks' Strait, in a voyage that stands unparalleled, as the most perilous ever made in the Polar Sea.

We, therefore, entered this bay,* disappointed as we felt in doing so, with a firm reliance on Providence that we might be enabled to leave on the following

* The bay subsequently received the name of Mercy, in remembrance of the perils we had escaped; but some amongst us not inappropriately said, it ought to have been so called, from the fact that it would have been a *mercy had we never entered it.*

season in a state of as great efficiency as we had then entered it.

On the morning of the 25th, our quarters for the winter did not present a very cheering aspect; nor could this, in any degree, remove the depression still universally felt amongst us. The weather was cold and raw, with light, variable winds from W. and S.W., and subsequently from the northward. Loose sailing ice was gradually streaming into the bay, with large spaces of water intervening; and, as the temperature ranged from 21° to 24°, young ice had formed on the water around us. The pack could be seen off the entrance of the bay; but, no doubt, ice of the same loose character, as that in the bay, extended for some distance into it. Our position at noon was ascertained, by observation, to be in lat. 74° 6′ N. long. 117° 55′ W.

The sails were unbent, and other preparations made for housing in; so that the idea of again venturing out, under any circumstances, was at once abandoned. The pack was still stationary on the 26th, and made no further encroachment on the bay. A few Seals and several Ducks were seen—the latter on the wing going to the southward. A strong westerly gale set in on Sunday the 28th; had it been our good fortune to have entered the pack, this would have borne us far to the eastward, as the ice was seen rapidly setting in that direction. The Aurora Borealis of considerable brilliancy, was observed

for the first time on the night of the 29th, extending east and west to the southward of our position. As the ship was at this date firmly frozen in, the anchors were hove up and secured. On the 30th, the temperature fell to 1°. and thus passed our second September in these regions—a month no less eventful than that of the previous year.

From the 1st of October, the rigour of an Arctic winter may be fairly said to commence. The temperature had fallen to 4°; all our preparations for housing in were completed, and the same routine established that had previously been attended with such beneficial results. It was at this time deemed necessary to place us on two-thirds allowance of provisions; the loss of beef we had sustained on first entering the ice, and the dépôt left at the Princess Royal Islands having very considerably curtailed the quantity on board. The reduction of provisions after two seasons' sojourn in the Polar Sea is an experiment more or less hazardous, considering the exigencies and rigour of a climate that urgently demands a very liberal supply of animal food for man's sustenance; not only to maintain unimpaired his physical power, but to enable him to resist the inroads of that terrible scourge of icy seas (scurvy), which under less favourable circumstances is certain to appear. The full scale of victualling allowed on Polar service, has for its basis, one pound of meat daily—salt beef, pork and preserved meat on alternate days, with a fair pro-

portion of flour and preserved vegetables. This in a temperate climate is sufficient to maintain the body in a state of health and efficiency, even when engaged in labourious occupation. As the same allowance of meat is issued whether at the Equator or the Poles, it is but fair to assume, that if it be consumed at the former, a larger allowance is certainly required to resist the trying climate of the latter. Experience enables me to state that men are less capable of resisting the effects of cold the second year in Polar regions, than they are the first; and so on for every subsequent year of their sojourn—for reasons sufficiently obvious. Their state of body is either at, or above par from the effects of wholesome diet and fresh vegetable food on first entering the ice, which enables them to generate heat sufficient to meet the exigencies of climate; and what the allowance of food fails to supply in carbonized material, is taken from other sources within the system. Hence, on the second year, these resources are not so abundant, and a larger instead of smaller quantity of the original allowance of food, is necessary to generate heat, to say nothing of making up the deficiency. If the supply is not equal to the demand, the body wastes, and debility and disease of a scorbutic character ultimately ensue. I am, therefore, of opinion that one pound of animal food daily is not sufficient for men employed on Polar service. For one year, its effects may not be much felt, but to enable men to

go through a second year and remain efficient, larger allowance, I consider, absolutely imperative. In support of this opinion, I may state that a higher standard of health is always found to exist amongst the officers in Polar service, than the men; no doubt from their having a larger and more varied quantity of food furnished from their private mess stock, which better enables them to maintain the heat of body, and thereby resist the attacks of disease. In addition to which, the greater degree of comfort they enjoy, from better accommodation and inhalation of a purer atmosphere than what is found on the lower deck, enables them to enjoy a greater immunity from disease. I always observed in my inspections, that the general health of officers was better than that of the men, and they were the last to manifest any symptoms of scurvy. Salt meat should be proscribed from an Arctic dietary, as it is calculated to promote what should be prevented—impairment of the vital energy—diminution of the physical powers from defective nutrition, and the consequent supervention of scurvy and debility. Food possessing the most highly carbonized qualities, should alone be supplied to Polar expeditions—such as pemmican, preserved meats and bacon—the latter can be preserved in a nearly fresh state, or at least with such a small proportion of salt as not to be detrimental. It forms an agreeable change when varied with the articles I have mentioned, and in sledge travelling it was always

much relished, and sustained men well under arduous exertion. Tea, cocoa and coffee are ever gladly sought after, and are in my opinion much preferable to spirituous liquors, in Polar service; but sound malt liquor (ale and porter) are universally relished, and form a beverage no less agreeable than wholesome, from the nutritious and anti-scorbutic properties which they possess. With a liberal daily supply of these articles, and a proportionate quantity of ascescent fruits and vegetables, with due observance of other sanitary agencies and regulations—particularly the promotion of hilarity, cheerfulness and amusement, and the avoidance of all depressing causes—a body of men may be maintained in such a state of health and efficiency as cannot fail to prove no less satisfactory than compensating.

The first few days of October presented no feature of interest. As it was an object to let the decks have the full benefit of light and air as long as possible, the hatches were still kept open; the temperature between decks was, therefore, cold and uncomfortable, no fires being allowed until a more advanced period of the season. We consequently sat in a temperature from eight to ten degrees below freezing point, which at night was lower; ice collected in large quantities in our cabins, imparting to them an attractive glistening aspect, not quite compatible with comfort, chilling to look at, resembling, in fact, an icy grotto; but on any slight elevation of temperature

from artificial warmth, sufficient to cause it to thaw, it descended in the form of rain—thus establishing a state scarcely allowing even a small degree of personal comfort. Hoar frost collected on the beard and blankets at night, which not unfrequently attached them to each other. During the day, I was often unable to write from the ink freezing in my pen, and water or lime juice kept standing on the mess table became immediately frozen. The cold is more severely felt at this season between decks, than at a more advanced period of the winter, when the housing is on, the hatches closed, and fires lighted; indeed, one is obliged to keep the body almost continually in motion to resist its effects. Exercise is then the order of the day, as antagonistic to it; and the charms possessed by the folds of the blankets were also duly appreciated. Hunger then becomes urgent, and the want of food severely felt.

On the morning of the 4th, Mr. Court, with a sledge and party of six men, provisioned for six days, was despatched along the coast to the north-east, with a view of connecting our position with that of the furthest point reached by Lieutenant Cresswell—which we then knew must have been more to the eastward than at first supposed—where a cairn had been erected, and a cylinder, with a record, deposited. The ice being in a good state for travelling in the Bay, we expected his early return.

The winds continued for the most part southerly,

with all that gloomy aspect of weather which ever attends the close of the season; a cold, raw atmosphere, dense fogs, with snow. The 7th was a day of unusual excitement amongst us, and afforded several occurrences of much interest and importance, although widely different in character.

At 3.30 P.M., Mr. Court and party returned on board, after their short excursion to the north-east; but was unfortunately unable to discover the cairn of which he went in search. That he had reached the locality there could exist no doubt, as he was accompanied by an intelligent and trustworthy petty officer (John Calder), under whose superintendence it had been erected, and who felt quite certain as to the position. It was remarked, however, that the land had since slipped in several situations, the disappearance of the cairn might, therefore, be satisfactorily accounted for.

From this point of coast, about eleven miles distant from the ship, Mr. Court intended to have gone further to the eastward, but his progress was entirely cut off *by an expanse of open water, extending from the shore to the northward and eastward, as far as he could see. The distance embraced by his range of vision from an elevated position he estimated at eleven miles, with a water sky beyond it, and no trace of ice to be seen in that direction.* The water was within eight miles of our position, extending off Point Back to the westward also for some distance, until

finally lost in the pack. This was indeed tantalizing, if not vexatious intelligence, as we were frozen in within eight miles of it. The most sanguine amongst us were astonished, as we could not possibly have expected such a favorable state of things. It more than verified the opinion I had some days before recorded in my journal, and have already made known in these pages. It may, therefore, readily be supposed how sad were our reflections, as we were bitterly conscious that had we taken advantage of the easterly current, and entered the pack, we should then have been on our way to England—instead of wintering in Mercy Bay.

The outline of Melville Island was also faintly discerned by this officer, from the highest elevation he attained, (about 300 feet) and there is every reason to infer that the wide expanse of water which lay before him, would have led uninterruptedly to its shores.

We had, however, some gratifying intelligence, to lessen, in some degree, our chagrin and disappointment. A party of our men, that were rambling over the neighbouring hills, (unfortunately they had no fire-arms,) came on board, reporting a large herd of Reindeer—which they computed at fifty or sixty—this information was indeed welcome. We lost not a moment in equipping ourselves for the chase, and a party of seven, of which I formed one, started in pursuit. We got on their tracks about two miles

from the ship, and steadily kept them in view for two hours, having gone over a great extent of country; until darkness set in, and further pursuit would have been useless. We accordingly retraced our steps, but the increasing darkness not enabling us to follow our outward foot-marks on the snow, and being as yet unfamiliar with the land, we lost our way. The moon soon afterwards rising, guided us to the ship, which we reached towards midnight, after a very toilsome march.

A small party, which had gone to the bottom of the bay in the morning, on coming into the neighbourhood of a high and remarkable table-hill, forming a prominent feature in our dreary landscape, from its appearance called "the Bluff," saw an immense number of Hares, three of which they shot; they were only provided with one gun, having no expectation of meeting any game. To compensate us for not meeting with the Reindeer, we were greeted with this pleasing intelligence on our arrival. It was, therefore, evident that there was abundance of game in our vicinity. We then erroneously believed that these animals migrated to the southward on the approach of winter, and were then collecting in herds for the journey. We still hoped, however, to diminish their numbers before they took their departure, and for the remainder of the night preparations were made to renew the chase.

At 5 o'clock on the morning of the 8th, a large

party started in pursuit of the Deer, following up our course of the previous evening, and another smaller one proceeded in quest of the Hares. The former had not proceeded far beyond our turning point, when they saw a large herd, and subsequently several smaller ones; they were very shy and difficult to approach, and to men, whose eagerness in the chase much exceeded their skill, the success attending their efforts was not great—one fine buck alone constituted the trophy of the day. The ice mate, (Mr. Newton) to his credit I record it, was the fortunate sportsman who killed this, the first Reindeer. From the number on the ground we might naturally have expected greater results, but time, experience, and necessity made us all better sportsmen. A sledge was dispatched, and our prize received on board with all honour. He was larger than any subsequently shot, weighing 240 pounds, which afforded us 160 pounds of venison in splendid condition, everywhere covered with a fine coating of fat. Lest we should not be so fortunate as to kill another, he was reserved to cheer our board on Christmas Day. As I shall have occasion to speak frequently of these animals in connection with the narrative, I will here give a brief discription of them.

The Reindeer (*Cervus Tarandus*) is an inhabitant of the northern regions of Europe, Asia, America, and the islands of the Polar Sea. In Asia it extends further to the south, than in Europe, ranging along

the Ural chain to the foot of the Caucasian mountains. In America they are most abundant between the 65° and 69° north lat.—their southern limit is not accurately defined, they having been seen as far south as 50°, while to the northward as high as the 78th parallel, and in Spitzbergen as high as 80°.

It has hitherto been the generally received opinion, that these animals migrate to the southward on the approach of winter, to lands where the cold is less intense, and the pasturage more abundant—an opinion formed from the writings of the distinguished Polar voyagers, who formerly wintered amid the icy solitudes of the north; but the experience of four winters enables me to speak from the result of observation, in contradiction to this. In the Prince of Wales Strait, Reindeer were seen in January—our distant position from the shore not enabling us to hunt during the winter, and in the Bay of Mercy, for two successive winters—they were constant inhabitants of the land, and were killed throughout the winter months of the coldest season in the records of Arctic voyaging. How far the migratory habits of the animal may be established in a more southern latitude, on the coast of America, in their instinctive resort to localities where pasturage may be more abundant, I shall not attempt to decide; but this I will say, that from the more distant lands of the Polar Sea, they do not migrate on the approach of

winter, but remain their constant inhabitants. I have remarked, however, that as the season of thaw sets in (May and June,) coeval with the calving of the Does, these, generally resort to the ravines and valleys bordering the coast, where the pasturage is so much more abundant. The requirements of the animal for the support of its young become urgent, obliging it to desert the higher, but more barren and stony lands for a locality where Nature's wants are more plentifully supplied.

From the period of entering this bay, until the abandonment of the ship in the summer of 1853, we killed one hundred and twelve. A few skins were preserved, and several of the viscera, together with various sectional preparations of the antlers in different stages of growth, as illustrative of its rapidity; in the hope of elucidating one of the most surprising processes of animal growth, which bounteous Nature enables us to contemplate, as evidencing her wonderful reproductive powers.

These animals vary in size according to age and other circumstances. The largest we got gave a nett weight of 240 lbs., which yielded 164 lbs. meat, and the smallest shot, only 32 lbs., the average weight, however, of the entire number was 70¾ lbs. The flesh, when procured in the autumn, is of the most delicious flavour and quality, tender, juicy, light, and easy of digestion—far surpassing the venison of this country—and covered with a good coating of fat. It under-

goes a marked change, however, as the winter advances, and in the following spring and summer, the animal becomes lean and poor, and the flesh dry and insipid, until the more abundant pasturage of the summer again brings it into improved condition, which is always best in October. They are generally shy and timid, and very difficult of approach, and it is only when all means of escape are cut off, and the animal wounded, that the bucks will evince signs of hostility to the hunter, or their great enemy the Wolf, by attempting to use their antlers in their defence. The calving season, as far as my observation enables me to judge, is in June; prior to, and coeval with which the bucks shed their antlers, which appear to be again entirely reproduced in the latter end of August, and early in September. The colour of the animal is in winter pure white, with a patch of light brown on the back; but in the summer it becomes extended, covering both back and sides partially—the remainder maintaining the pure white of the winter. When much hunted, they become exceedingly shy, and it is only by the exercise of the utmost strategic skill, that the hunter can then hope to get within range. In first meeting, an instinctive curiosity leads them, unwarily to approach the wily hunter, and thus become his prey. They are, as it were, fascinated by the novel appearance of man, in the dreary wilds, where his form has never before been seen. From this circumstance I infer that the

success of a party is likely to be greater, by changing their hunting ground from time to time, rather than by remaining stationary among animals, rendered wild by his presence; as they do not appear to make extensive wanderings from certain circumscribed localities.

They generally graze with their heads to the wind, and so habitual is their instinct, that after the prevalence of strong winds, we generally hunted in the direction whence they had blown, with the greater certainty of meeting them. On the approach of winter, the fur of the Reindeer becomes very dense. Sir John Richardson informs us, "that the skin, when dressed with the hair on it, is so impervious to the cold, that if clothed in a suit of this material, and wrapped in a mantle of the same, a person may bivouac all night in the snow with safety during the intensity of an Arctic winter." Such admirable covering for the inhabitants of the Arctic regions is, therefore, inestimable; and these skins are universally used for this purpose. In hunting, we met with the greatest degree of success in the four first months of the year, when the animal, tamed by cold and hunger, could be more easily approached.

A party, consisting of an officer and six men, accompanied by myself, were despatched to the top of the Bay, where the Hares had been seen, and distant from the ship about five miles. Although many more were seen, and a few shot, we found great difficulty

in getting within range—so wild had they become since the previous day. On the 9th, there were no less than twenty-five guns abroad, and, as a matter of course, great destruction to the Deer was anticipated; but towards the close of day, as we successively returned on board, our expectations were not realized —one small Deer being the only product of the chase. A Wolf was seen by one of the party in chase of a Deer, but defied his best efforts to get a shot. From the accounts of the several groups of sportsmen, scattered over a wide extent of land, the Deer were reported as abundant, and still keeping in our vicinity. We, therefore, indulged in the pleasing hope of procuring more abundant supplies—a duty on which we were all then eagerly bent, and were much favoured by the weather, being cold and clear —the temperature ranging from zero to 20° above it.

On the 10th, shooting parties, consisting of six men, were organized and dispatched inland on either side of the bay, with a week's provisions, to encamp where the game might appear most abundant—considering that our chances of success would be much greater by being always on the spot. A party was also sent in charge of Mr. Sainsbury (Mate) to examine an inlet at the south end of the bay, which appeared to extend inland for some distance; but he returned the following day after having explored it for twelve miles, when it ended in a marsh. Instead

of its proving an inlet, as was supposed, it was merely a river bed, into which the sea-water extended for a short distance. It appeared to be a favourite resort for animals and water fowl in the summer season, from the numerous tracks that were seen. About 9 P.M., we were greeted for the first time with the dismal and piteous howling of Wolves; three or four had approached close to the ship, and were seen by one of the men who happened to be on the ice at the time. They were evidently on the track of Deer, as their visit was a hasty one, and did not afford us the chance of a shot. On the following day, I encountered this pack, and with my companion hunted them for a long distance, but could not get nearer than 500 or 600 yards; they were still following on the track of Deer. It is a very beautiful sight to view a herd of Reindeer bounding over these wild and dreary snow-covered regions, and equally so to observe the watchful care ever manifested by the older bucks for the preservation of the herd. These animals, on seeing something suspicious in appearance, separate from the rest, that are left in charge of another buck, who keeps them together while they advance towards the object; this they endeavour to keep between them and the wind, so as to make their keen sense of smell available in the *reconnoissance*. If they have not been previously much hunted, they will sometimes approach within good range for a shot; otherwise they will observe a greater distance, where they will stand

gazing at the hunter, who generally prostrates himself on the snow as they advance; when satisfied by their strong instinctive feeling of the threatened danger, they instantly take to flight, rejoin the herd, who are all this time interesting spectators of the scene, and the next moment are bounding over the hills—the old bucks leading and flanking the herd; thereby preserving a close and well-ordered flight.

CHAPTER XIX.

The Hunting—Weather—Incidents of Sport—Wolves—A Night Adventure—Return of Shooting Parties—Produce of the Chase—Its Salutary Effects—Inspection of the Crew—Weather—Lightning—Incidents—Change of Temperature—Departure of the Sun—Winter Preparations—Occupations—Arctic Currency—Barometric Changes—Weather a December Gale—Christmas Day.

We continued daily in zealous prosecution of the hunting, with various degrees of success. In all directions we were afforded pleasing evidence of the presence of Reindeer, and felt quite satisfied they would remain near us for the winter. Hares, Foxes, and Ptarmigan were also seen, and frequently shot; so that, although we were on a reduced allowance of provisions, we hoped that our efforts in the chase would enable us to supply the deficiency.

Towards the middle of October, the weather became altered in character. The first half of this month, as in the previous year, was fine, and fully justified the appellation it has received, of the second summer—

known in North America as the 'Indian summer.' It was, at this time, succeeded by snow and fog, and the atmosphere surcharged with moisture, indicated open water to the northward and eastward. Dense, dark clouds were also observed in those quarters, and as the temperature had kept high, we could not but believe that it had been a most favourable season for navigating the sea to the eastward, in the direction of Barrow Strait.

A Reindeer was shot on the 16th, and left on the land for the night. On sending a sledge party for it on the following morning, they found five Wolves regaling themselves on the body. They took to flight on their approach, and a musket which had been placed over the animal by the hunter, as if to inform them of its being private property, had been carried by them a short distance, that they might suffer no interruption to their feast. We were at this time, and, indeed, through the winter, much annoyed by these animals. They excited our ire extremely, and any sacrifice would willingly have been made for the pleasure of shooting one of them; but we hunted them in vain—their cowardice being only equalled by their voracity. They had rendered the Deer wild and shy to a degree, thus interfering largely with our sport—if one was killed, and could not be brought on board, the chances were against its not being devoured in the morning; and they serenaded the ship at night, with the most dismal howling I have ever heard.

This disturbed us very much, and many an hour did we lay in ambush on the snow, in hopes of shooting those wily and treacherous brutes.

The incidents of sport that daily occurred to us were very numerous, and the interest and pleasure derived from their narration, always produced agreeable excitement, and tended much to cheer our long, and solitary nights. On the 16th, a seaman, attached to one of the shooting parties on shore, when in eager pursuit of two Musk Oxen, separated from his companions; as night and darkness soon afterwards set in, he lost his way, and was unable to regain the tent. He was consequently obliged to keep moving about during the night, to maintain warmth; and he subsequently described his situation in quaint and amusing terms, as being far from pleasant. He was at one time surrounded by several Wolves, at which he had fired all his ammunition, consisting of three cartridges, but without effect. Nor did they feel disposed to leave him for some time. In this state he was obliged to move about, ready to act on the defensive with his knife and musket, as long as he could use either. He had not been long free from their company, when a Bear made its appearance, which he thought did not see him. He expressed, in rapturous terms, the relief he experienced when daylight came, and enabled him to reach the tent fagged and exhausted, with far from pleasing reminiscences of the night's adventure. It was fortunate that the

temperature rose that night higher than it had been for some time before or subsequently; otherwise the poor fellow must have paid dearly for his zeal in the chase. Every effort was made to find him, by the tent party during the night, in vain.

On the 23rd, the last of the shooting parties arrived on board, and we were gratified to find that by our united exertions, we had procured nine Reindeer, thirty-six Hares, and about forty Ptarmigan; a very nice stock of fresh meat, with which to commence the winter, and rendered even more acceptable, from its being unexpected. In addition to its intrinsic value to us as fresh provisions, the exertions required to procure it afforded agreeable and healthful excitement, interrupted the monotony of our daily lives, tended to prolong the autumnal season, and to dispel much of the winter's gloom. One might sometimes wander about for days in succession, without seeing a trace of animal life; yet the pursuit kept the mind in a state of buoyancy, which, sustained by hope, and occasional success, assisted in antagonizing the depressing effects arising from the darkness of an Arctic winter. The fresh meat was issued once a week in lieu of ship's provisions, and I have no doubt contributed to the maintenance of health—it was anxiously looked for, from the pleasant change it afforded to the ordinary fare. To the sick it was very acceptable, and of great benefit.

On the 26th, the anniversary of our discovery of the

Passage was celebrated in a very simple and humble manner, by an extra allowance of spirits to the men, on whom it exercised its usual hilarious and cheerful influence, and made the conversation of the evening flow very freely on the lower deck.

On the 27th I took advantage of the last daylight I should have, for my inspection of the ship's company, and was gratified by the result; as I found them in a state of health and efficiency—a few appeared to have lost flesh a little, but there was an entire absence of anything of a scorbutic character. I felt it my duty, at the same time, to represent that such a favourable state could not possibly exist long, on the reduced allowance of provisions on which they had been placed.

Nothing of interest occurred for the remainder of the month. The mean temperature having been three degrees higher than the previous October, although we were two degrees further to the northward, for which the assumed existence of open water to the north-east would readily account. The Aurora Borealis was frequently visible, but always less brilliant than we had observed further south.

Strong north-westerly winds ushered in the 1st of November, with frequent squalls, and snow-drift, and the temperature ranging from 9° to 4° (below zero). The sun had not shewn himself for some days, and as the period of his departure drew nigh, we began to doubt whether we should again be favoured with his

presence—so generally dark and cloudy had the weather become. Towards midnight on the 3rd, the officer on watch (Mr. Wynniatt), reported that he saw a flash of sheet-lightning in the north-west, and two men who where on deck at the time, fully corroborated the statement. I am not aware that lightning has before been seen in such a high latitude at this season, with the temperature at —10°; and consider the phenomenon worthy of being recorded. The sky was quite dark, both before and after its appearance, nor was there the slightest gleam of Aurora visible.

Our guns were still daily in requisition, and a few Ptarmigan were occasionally added to the stock. The smaller game became the perquisite of the hunter, and always proved an acceptable addition to his mess; when a Deer was killed, he became entitled to the head and heart—a much coveted prize, and a powerful incentive to exertion in the chase. Deer were frequently seen crossing on the ice from land to land, generally pursued by Wolves, which had become at this time very audacious, and were our constant nightly visitors. They came quite close to the ship, but baffled our best efforts, although frequently fired at.

On the 4th, two of the men, who had gone on a shooting excursion, not having returned at 6 P.M., we became uneasy at their absence, as the Wolves were heard mournfully howling far and near. Rockets were fired as signals, and were answered by the discharge of a musket. One of the men soon after-

wards made his appearance, informing us that he was obliged to leave his companion on the ice, in a state of exhaustion from fatigue, and want of food, and had hastened onward for assistance. A party were immediately dispatched, and in the course of an hour he was brought on board; he recovered on receiving some warm food. Had the Wolves come across his path, his doom would have been sealed, as he was quite incapable of offering the slightest resistance.

The morning of the 7th was clear and calm, but a south-westerly gale set in in the course of the day, the barometer having previously foretold the change, and in the short space of two hours (from 2 to 4 P.M.), the temperature rose from —18° to +1°, and in the four subsequent hours to +8°, the sky at the same time cloudy and overcast; but from 10 P.M. to midnight it again fell to —8°. These changes succeeding each other in such a short space of time, were rather remarkable, which we attributed to the influence of the warm air brought up by the wind from the southward. The depression of temperature at midnight was nothing more than what usually occurs at this period of the day; for on the following day with the continuance of the wind, it rose to its previous maximum +8°, and fell next day, as a northerly wind set in. A richly tinted sky to the westward foretold the sun's appearance. His upper limb became visible in gorgeous splendour towards noon, but soon afterwards sunk to rise no more that year on the dreary region of our abode;

disappearing from our view amid the richest tints of crimson and gold, such as can only be seen in a Polar sky, through its atmosphere of extreme purity. Darkness had thus again enshrouded us, and until the reappearance of this great luminary, monotony and dull routine were to become once more our lot in these cheerless solitudes. We were thankful, however, for the resources our position afforded us, when we reflected how truly miserable it would have been without them.

On the 10th, the ship was housed in; the snow embankment was commenced, and other preparations completed, such as I have previously detailed. As we had been then nearly two years depending on our own resources, the want of tailors, bootmakers, and such other essential agents to the comfort of men, became apparent; they, however, were wonderfully well supplied—necessity developing new talents in our crew. During the previous winter they had attained such a degree of excellence in these and other trades, that it was quite surprising to see the admirable work they could turn out of hand, without having had any previous knowledge of the handicraft. Tradesmen thus became established in the ship; as elsewhere, their custom was proportionate to the reputation they enjoyed for the excellence of their workmanship; and both officers and men had their favourites whom they employed. To remunerate them became the next object for our consideration; but we

had no money, and Jack could keep neither book nor accounts. We, therefore, determined to establish a coinage suitable to the emergency. Gun wads were adopted as the circulating medium—the sum due was marked on one of them, with the initials of the officer who contracted the debt, which ensured its being negotiable throughout the ship. Numbers of them got into circulation, were passed from hand to hand like Bank of England notes; in short, became the currency in all monetary transactions, and were duly honoured when presented for payment on our return to England. The industrious artificer was well remunerated for his work, by the handsome sum he had accumulated during this and subsequent years.

A black Fox (*Canis Argentatus*) was observed by one of our men on the 11th, about a mile from the ship, the first we had yet seen; nor is there a recorded account of this animal having been met with so far north in any former voyages; but the probability of their existing here has not been questioned.

Reading constituted our principal amusement, and we began to fear that our assiduity would deprive us even of this enjoyment, if destined to spend another winter in the ice. Indeed, even then, books were re-perused, oft-told stories retold again and again, with a semblance of novelty which they could only possess from the utter dearth of anything new or strange. These were pleasantly enlarged, embellished, and varied by the tact and ingenuity of the narrator, and

always proved acceptable to the attentive listeners. Some indulged in what would be considered drawing-room occupations, such as fine needlework, knitting, crochet, making little repairs to mits and caps, cutting out patterns to impart some new idea to the tailor, and many other little occupations suggested by circumstances and our own ingenuity. The slightest incident or occurrence in or out of the ship was gladly seized on merely to excite a subject of comment or conversation, to promote the great object in view of "killing time;" and rejoiced did we feel when came the hour of retiring to rest, to think that another long and gloomy Arctic day had passed.

Few incidents of consequence occurred for some days—from the 12th to the 15th, numerous meteors were observed to the southward, shooting for the most part in a south-east direction; the effect of which was very beautiful in a clear, cloudless sky. On the 22nd, a Bear was seen approaching the ship from the north-east. This immediately set us all in motion, eager to share in the agreeable excitement it promised, and our guns were in instant requisition. A few of us took up a position under cover of a snow wall close to the ship awaiting his approach; but when Bruin was about 200 yards distant, some of the men incautiously exposed themselves to view, when he turned and at once started off in the direction whence he came. It was a young Bear, and although we did not succeed in making him our prize, his visit afforded us a topic

of conversation and debate for the day—so gladly did we welcome new events. November came to a close unmarked by any other features of interest. The weather had been colder but less boisterous than this month in the previous year, showing a mean temperature of —15° 2′. The usual winter atmospheric phenomena were present—the barometers rose to a great height on several occasions, and showed indications contrary to those generally observed under the same influence in temperate climates. On the 14th, during a calm with occasional light northerly winds, and a temperature of —20°, the marine barometer rose to 30.74 inches, the aneroid to 31.50, the extreme of its graduation, and sympiesometer correspondingly high—a natural consequence from the character of the wind and weather. Whereas from the 27th to the 30th, during the prevalence of southerly winds, with a cloudy overcast sky and snow, and with a temperature varying from —18° to —40°, they rose equally as high as on the 14th; and, contrary to usual observation, the temperature fell instead of rising with the southerly winds; which may be attributed to these winds having lost all their warmth in blowing over such a vast extent of snow-covered land to the southward.

The last and darkest month of the twelve (December) again presented itself, ushered in with a southerly gale of five days' duration, which in length and violence exceeded any former one we had experienced in these regions. During the first two days

the temperature and barometers remained as I have mentioned at the close of the month, but on the third the former rose to zero, and the latter began steadily to fall, although the wind continued from the same quarter. On the 4th, it blew with hurricanic force; we dared not show ourselves from beneath the housing, as the howling tempest swept over us with pitiless fury—we expected every moment to see it carry away our well-secured covering—and the atmosphere was one dense mass of snow-drift. Melancholy would then have been the fate of those exposed to its fury in these regions, without the shelter of a ship—a thought ever present to our minds on such occasions, in connection with the missing Expedition. On the 5th, it moderated, when we were enabled to view the state of matters outside; we found that a snow-wreath, thirteen feet high, had accumulated about the ship; the weight of which caused the ice to sink, as our embankment had given way from her side. No damage was sustained, but the appearance of the 'Investigator' was truly Arctic in character, she being almost buried in snow. The drift had collected on every part of her—from the truck to the ice beneath, there was not a speck of black anywhere to be seen. During the height of the gale, a Wolf was seen a few yards from the gangway, standing on the snow—doubtless severely pressed by hunger, otherwise he would not have manifested such tameness. He went off on seeing the door opened, before we could

get a shot. The little Foxes had likewise become so subdued by hunger, that they often came on board over the embankment, or by the gangway, with great freedom in quest of food, and frequently risked their lives by their temerity, as they were caught in traps set for them on deck.

This month was singularly barren of incidents, and dark and gloomy to a degree. Shooting had been in great measure discontinued, and the occasional halo of moon or Parasëlenæ, with faint glimpses of the Aurora, were the only objects to cheer us. The advent of the solstice told us that one half of the dark days had passed. Our second Christmas on the ice was gladly welcomed, and passed like the preceding one—each doing his utmost to give it as much of a cheerful character as circumstances and our resources would admit. We regaled ourselves with the fine fat buck that was shot early in the season, and in the cheering cup wished ourselves, as we had done before, that this might be the last we were fated to spend within the Arctic circle. The few remaining days of 1851 came and passed without the slightest incident to call for observation.

CHAPTER XX.

First day of 1852—Health of the Crew—Appearance of Reindeer—One killed—An Incident of Sport and Results—Return of the Sun—Incidents and Events—Absence of three Men—Fears entertained—Their return—Reindeer Hunting—Its Hardships and Difficulties—Sanitary State in April—Adventure with Wolves—Departure of a Party for Melville Island—Incidents—Appearance of Scurvy—Weather—Return of the Party—Their Journey and Results—Disappointment—State of the Ice—State of the Men on their return—Weather—Results of the Hunting—Appearance of Snow-Geese—Other Birds—Order of their Arrival and Departure.

With the year 1852 commenced the third of the ship's commission, and if the two previous ones had been fertile in incident and adventure, we fondly hoped that the present one would prove different from either, by favouring our escape from the Polar Sea.

The state of health we enjoyed up to this period was very satisfactory. The inspection of the crew enabled me to report as favourably as on the last occasion—they evidently having derived much benefit from the excellence and nutritious properties of the

fresh meat, which had thus been issued every fifth day for a period of two months. There were only four men on the sick list, and the diseases that had hitherto occurred were chiefly those which resulted from the effects of cold and exposure, such as frost-bites, local inflammations, and a few others; all were yet free from any scorbutic taint, although then three months on a reduced allowance of food.

The New Year's day was made a festive one by the issue of extra allowances of provisions, and we did our best to welcome the New Year with as much cheerfulness as circumstances permitted; believing it was *the* one that would again restore us to our country. It was ushered in with light southerly winds and intensely cold weather. On the 3rd, the temperature had fallen from 43° (on the 1st.) to 51° below zero, causing incessant frost-bites on the least exposure to the light wind which blew; and it was not until the 8th that it rose above 34°. There had been for the three previous days, a gale of wind blowing from the southward, that confined us to the ship, as we could not for a moment show out against it with safety, during such low temperatures.

Our excursions which had never been interrupted were soon made more extended, and on the 12th, two Reindeer were seen a short way inland. This led us to hope for early supplies, as our stock of venison had for some time been exhausted. On the 14th, two more were observed from the ship, and being without

antlers, were not those seen two days previously. They were pursued by a few of us, and once fired at without effect; the intensity of the cold and prevalence of a breeze at last obliged us to return to the ship, after having been frost-bitten in face and fingers. From this date they were noticed almost every day that we could venture out, in greater or less numbers; several were wounded without our being able, from various causes, to follow up the chase, as the dim twilight in which we hunted was not conducive to our success. We had, nevertheless, some very exciting sport in their pursuit—no opportunity being ever lost of following up the chase with a degree of spirit and energy, worthy of being recorded. This was only relinquished when darkness, snow-drift, or when semi-paralyzed from cold, we were obliged to return to the ship; and then not unfrequently we lost our way in the attempt.

It was not, however, until the 28th, that success at length attended our efforts, when the first Reindeer fell to our guns. It weighed eighty-seven pounds, but in its poor condition contrasted in a marked degree with those shot at the commencement of winter (October), as there was scarcely a vestige of fat any where to be seen. On the following day, the 29th, our second fell, affording us one hundred and eighteen pounds of meat, in the same condition as the first; from this time our sporting season may be said to have commenced, and it was ever after-

wards prosecuted with vigour. No day came without seeing some of us on the hills, when we could possibly venture out, and no week passed without some addition being made to our stock.

The entire of this month was remarkable for its cold, boisterous character; there were but few days that the wind did not blow with the force of a gale, at some period of its twenty-four hours. The south-west and north-west winds prevailed; light snow fell on two occasions; the mean temperature was —27° 32′, and force of wind 3.4.

On Sunday, the 1st of February, strong northerly winds, with a hazy atmosphere and light snow were present; the temperature rose to 1° above zero, and the barometers fell lower than we had previously known them—entirely at variance with the influence usually exercised by northerly winds. In my monthly inspection of the crew, I observed, for the first time, a loss of flesh and strength in some; a result I was fully prepared to expect, after being four months on a reduced allowance of food, and subject to the rigour of the coldest period of the year—the general state of health was otherwise good.

Several men had been abroad during the day of the 9th, and a small Deer had been shot; but as the day advanced, and evening came, two were still missing—Sergeant John Woon,* R.M., and Charles

* I cannot mention the name of Sergeant Woon without here recording the high opinion entertained of him by the Captain,

Anderson.* We were much alarmed at their continued absence. At 8 P.M., a mortar was fired, and rockets subsequently, at intervals, but without any recognition. They not having made their appearance at 10 P.M., three parties were despatched, each consisting of an officer and three men, supplied with rockets, blue lights and refreshments, to prosecute the search in different directions. They had not been absent more than fifteen minutes, when they were met by Sergeant Woon, hastening on board for assistance. Two of the parties were still within hail of each other; they united, and, under the guidance of the Sergeant, soon came up with the unfortunate object of their search. It appeared that the man had wounded a Deer, which he followed for some time, when a fog setting in, he found himself unable to regain the ship, having, in the eagerness of pursuit, paid no attention to the direction he was going in. He became panic-struck, and in a state of despair, wandered about in

officers and crew. He proved himself invaluable, was always a ready volunteer for any service, most correct and soldier-like in his conduct, ever promoted what contributed to the hilarity and cheerfulness of the crew, and was one of our most indefatigable and successful hunters. In short, he was brave and intrepid on every occasion, which fully tested the man, and he proved himself a credit to his corps.

* Charles Anderson was a very good, well-conducted man, and from his many amusing qualities, a great favourite in the ship. He was a man of colour, represented himself as a Canadian, inured to a hunter's life in North America, and was one of the most powerful and muscular men amongst our crew.

vain seeking his homeward route, when, luckily, the Sergeant came across his path. Woon found him in a half-demented state, overcome by fear and fatigue. He had given himself up for lost, nor could the presence of the Sergeant reassure him to the contrary. So prostrate in both moral and physical power and energy had he become, that it was with difficulty he could be induced to move. Entreaty and remonstrance were alike unavailing. At last, he was persuaded to walk a little; but soon sunk in the snow in a state of utter helplessness, with hæmorrhage from mouth and nose, and partially convulsed. Then it was that the Sergeant displayed those fine qualities which so much entitled him to our admiration and gratitude. He saw that the poor fellow must soon expire, if a vigorous effort was not made to relieve him; yet their distance from the ship precluded the possibility of his seeking assistance—before he could reach the ship, the man would be frozen to death, and a prey to the Wolves then heard howling in the distance.

One alternative alone remained, and that was heroically and promptly adopted. Carry him he could not, as the one was about the lightest, and the other one of the heaviest men in the ship; so, slinging both guns over his shoulder, and with the man's arms around his neck, he commenced the Herculean task of dragging him over the snow in the direction of the ship. As he ascended a hill, or reached the brow of

a ravine, he wisely rolled him down the descent; this had the good effect of exciting the vital powers, and antagonizing in some degree, the lethargic sleep of death rapidly stealing over him, he having frequently supplicated to be left on the snow to die. But his preserver had no idea of men dying under such circumstances, and nobly persevered at his labour, until he had reached within a mile of the ship, when he found his own physical powers giving way. Having succeeded in arousing a little more life in the helpless man, he laid him in a bed of snow, and started off for assistance. He was met, as I have before mentioned, and a messenger instantly dispatched on board with the intelligence, which reached us about 10.30 P.M. As the night was intensely cold, with a fresh breeze, and a temperature of 57° below freezing point, I knew the tragic scene must soon come to an end if relief did not speedily reach him; and I at once started in pursuit of the party, having previously left the necessary directions with my assistant (Mr. Piers) to meet the emergency, on Anderson's arrival. I met the party about three quarters of a mile from the ship, carrying the nearly frozen body. He was in a state of insensibility, arms and legs stiff and rigid—the former extended, could with difficulty be bent—hands clenched and frozen, eyes fixed and glassy, jaws rigid and both so firmly clenched, that we could scarcely separate them to pour down restoratives. The pulse was imperceptible at the wrist, the heart

barely acting; and in a few minutes he must have terminated his existence. A sledge had been dispatched with me, on which I had him placed, and speedily brought on board. All being in readiness for his reception, the work of resuscitation commenced, which I had the satisfaction of seeing attended with success. Reactionary fever with delirium ensued, but from these, he in a few days recovered. He was, however, extensively frost-bitten, which ultimately entailed the loss by amputation of both great toes, with portions of others, and also of the fingers, together with a part of the nose. He was ever afterwards highly susceptible of cold, and remained much debilitated, and became subsequently affected with scurvy.

This incident furnishes a striking proof of the differences in the moral and physical powers of endurance of the dark and white races; for notwithstanding his arduous exertions, the sergeant returned on board apparently as fresh as if he had had only an ordinary walk. One of the parties (Mr. Wynniatt) that had separated early, returned at 2 A.M. on the following morning, had come on the track of the missing man, and had followed it up to the spot whence he had been so Providentially rescued from inevitable death.

On the 5th, the upper limb of the sun was revealed to us by refraction; but it was not until the 7th that he was really visible. His reappearance was anxiously looked for, it constituting one of the greatest events of the year, and brought the assurance

that the days of darkness had passed. We were now enabled to look hopefully forward to the coming season of daylight, for our liberation. He made his appearance, after an absence of ninety-one days, gorgeously tinting the eastern horizon with his brilliancy, much heightened by a beautiful pillar of Zodiacal light; and presented a picture no less lovely than welcome in the hitherto dreary aspect of the heavens. The Aurora Borealis so frequently present, was, by no means, as brilliant as we had seen it in the Strait of Prince of Wales. Its evanescent splendour, was, however, on a few occasions, strikingly beautiful and effective. It illuminated the heavens, and shed its soft mellow light over the snow-clad regions of our abode, dispelling much of the surrounding darkness. The hunting was prosecuted with zeal, vigour, and a fair amount of success throughout the month. It was attended by numerous daily incidents of daring and adventure, with which my Journal largely abounds; and we were again enabled to issue venison three times in a fortnight. The weather throughout the month was intensely cold and boisterous, but somewhat less so than in the preceding—the mean temperature being 25°.8 below zero, with the force of wind 3.1—light snow fell on six occasions.

On the 1st of March, a bird was observed, which proved to be a Snow Owl, (*Strix nyctea*), and from having seen them in the middle of a subsequent winter, it may be assumed that they are always to be

found on the land. At my inspection of the crew at this time, I observed a marked loss of flesh, with impaired strength in the majority; and they informed me that, although in good health, otherwise, they felt themselves becoming gradually weaker. A Deer was shot by one of the men, (Wm. Whitfield): the novelty of the decoy used on the occasion, was a new feature in our sport, and was practised afterwards by others with success. On sighting the herd, he took from his neck a red comforter, fastened it to his ramrod, which he planted in the snow, and lay down about twenty yards distant. Three of the animals immediately approached, and while turning it about in play, a shot was fired, which killed one and wounded another, which ultimately became a prize.

The 10th was the coldest day of the season—the temperature having fallen to 52° below zero, with a mean for the day, of —45° 2′; nevertheless it did not keep us from the hills; and two Hares were added to our stock. We were obliged to keep constantly in motion, but despite our best efforts, myself and others, were smartly frost-bitten before we returned on board. On many of these occasions, we were frequently unable to regain the ship for hours, having lost our way from darkness or snow drift. On the 17th, many of us were abroad, and at evening all had returned on board, except three men who were still absent. Knowing the difficulties they must encounter in reaching the ship, the probability of

accidents occurring under the influence of intense cold, and unprovided with food, we were much concerned for their safety. Signals were, therefore, made with rockets and blue lights at intervals; but as they had not returned at midnight, three parties were dispatched in different directions, to search our usual hunting resorts. I was immediately to be informed should any of the missing men make their appearance during the night, and not knowing what might be required on their return, I could not proceed in search of them. At 5 A.M. it was reported to me that a man was observed approaching from the northward, who proved to be one of the missing hunters. Soon afterwards we had the satisfaction of receiving him on board, and in safety, with the exception of his having received a few frost-bites. This man (Henry Stone,*) said, that being in chase of a Deer a long way inland, he had lost his way in the dense haze that covered the land, and wandered about until he came out on the sea ice to the northward; by following the land on his right, until the coming daylight

* The subject of this incident was one of the most lively, good-humoured and cheerful of our excellent crew. He was always ready to do anything, or go on any service, and returned on board as light-hearted as if he had only been a few yards from the vessel. He was the armourer of the ship, and had necessarily a good deal of tin-work to do, in making cooking utensils, &c., in consequence of which, and his numerous good and social qualities, he was familiarly designated by his shipmates, "the Jolly Tinker."

revealed his position, he was enabled to reach the ship, after an absence of twenty hours, with a range of temperature during this period from 17° to 40° below zero. He said he experienced a strong desire to sleep, but knowing how fatal would be its indulgence, he strenuously resisted the temptation; and by keeping the body constantly in motion, was enabled to maintain a fair degree of warmth.

At 9 o'clock on the 18th, the searching parties had returned without being able to discover any trace of the absent men, after a fatiguing night's search over the hills. Two fresh parties started, and, being favoured by daylight, we hoped with better chances of recovering the absentees, for whom our fears had greatly increased. At 1.30, however, the appearance of two men, rounding the point at the north-west entrance of the Bay, left no doubts on our minds who they were. I immediately started with a few others to meet them, and was happy to find them in a good state—although haggard looking and exhausted, they were yet well able to walk, each carrying his musket and a Hare. They also had lost their way, but had advanced further into the interior; and they too went to the northward until they reached the sea-ice at daylight, and discovered their position, which led them to the ship. They kept almost constantly in motion, occasionally sleeping on the snow for ten minutes—one keeping guard and awaking his companion at the end of this period. They had shot two

Hares, and regaled themselves on the viscera, reserving the bodies for more urgent necessity, in case they should not regain the ship. The fact of their being in possession of a supply of food, had doubtless a sustaining and salutary influence on their minds under the trying circumstances of their situation, they having been absent from the ship 28½ hours. The display of fortitude and endurance manifested by these men, contrast most forcibly to their advantage with the man spoken of on the 4th of February.

At 9 P.M., one of the searching parties (Mr. Haswell's) returned on board, having luckily come on the track of the men, and followed it to the ship. To prove how admirably this search was conducted, the second party (Mr. Wynniatt's) did not return until past midnight; they also came on the track of the absent men, and followed it up to the end; then retraced it back until they observed where the other searching party had come upon it; when they became aware that they must have received succour, and reached the ship. The result was very satisfactory, from the fact of both having come on the track; so that they could not have failed to have afforded relief, or ascertained the fate of the men, had any casualty occurred.

Our game list at the end of the month told us that we had killed thirteen Reindeer, and twenty Hares. Many more of the former fell, as numbers were wounded, which we were unable to follow, and became

the prey of the Wolves and Foxes. Indeed the latter had become no less numerous than ravenous, and our losses on this account were very considerable, for what was necessarily left on the land all night, was found nearly consumed on the following morning. The sport of hunting or shooting is ever associated with feelings of pleasure and enjoyment, but in the snow-clad wilds of the north, it resolves itself into an act of duty, from a stern sense of which all felt called upon to devote their zeal and energy to its pursuit; success in which was always attended with much general good.

The hardships and difficulties incidental to Reindeer hunting in the early months of the year, when the cold is so intense, must be experienced to be fully understood. There are few pursuits which more thoroughly test the physical and moral powers of our nature, or more truthfully try man's capability of enduring hardships,. privation, and fatigue. There is a constant strain upon the perceptive faculties when pursuing an animal so timid, shy, and watchful as the Reindeer; and from lying in wait, eagerly watching his movements, half-concealed in the snow, it was no uncommon thing to find ourselves so benumbed as to be quite unable to fire our guns, when he appeared to be a certain prize. If we fired, reloading could only be accomplished after much difficulty and delay, with the certainty of frost-bitten fingers. A zealous hunter could always be recognized by his

disfigured face—the result of his frequent frost bites. As the animals were generally shot at distances, varying from two to six or eight miles from the ship, bringing them on board was likewise a work of labour: a sledge and party were always dispatched on receipt of the intelligence, dragging which over high hills and through ravines, when the snow lay deep was found very laborious and trying work, and it was no unfrequent occurrence to find one or more of the party return in a state of complete exhaustion.

March proved the coldest month of the winter, the mean temperature 21° 42′ below zero; but there was less wind than on either of the preceding months, its mean force being 2.0—light snow fell on eight occasions.

We entered on the month of April auspiciously with good reason for congratulation, the gloom and severity of winter having passed. There was but little change in the sanitary state of the ship—the same marked evidence of loss of flesh was present, but the progress of the evil appeared to have been in some degree counteracted by the issue of the fresh meat. The sick list, however, was gradually attaining a higher daily average than it had hitherto presented.

The 7th proved the most successful day in the chase, we had yet had; no less than 300 pounds of venison were added to our stock. The boatswain, (Mr. Kennedy) started in the morning to fetch a Deer he had killed the previous day. On reaching the spot, in a deep ravine, he found only its remains, which a

pack of five Wolves were then ravenously devouring. Determining to recover, at least, a portion of his sporting rights, he boldly advanced. He first endeavoured to frighten them by hallowing at the top of his stentorian voice—three moved off a few yards and sat down, but two remained still at their occupation. He now seized a hind leg at one end, while one of them dragged at the other; his companions sitting snarling spectators of what was going on. With his musket firmly grasped in one hand, and brandishing the long bone in the other, the gallant boatswain kept shouting at the top of his voice, with the double object of keeping off the Wolves, and attracting assistance; at every opportunity, he kept warily removing portions of the meat, at the same time presenting a bold front to the enemy, who continued growling their defiance, and discontent at his operations. Their noise at last brought the Interpreter within view. On joining the boatswain, he was in a state of great trepidation and excitement, apprehensive of an immediate attack; but on another actor coming upon the scene, the Wolves decamped, and took up a position on a hill about 200 yards distant. The boatswain flung the remnant of the Deer on his back, and under the protection of his escort retreated from the scene of his spirited adventure. I happened to be in the vicinity, and attracted by the howling of the Wolves, was hastening to the spot, when I met the two men just as this affair terminated. Never can I forget the appearance

of the boatswain, nor the narration of the adventure he earnestly and graphically gave me, as I lay on the snow heartily amused. No general could have felt more elated at the conclusion of a successful campaign. He deserved much credit, not less for his zeal, than his courage, in recovering single-handed a portion of his Deer from such ferocious enemies. We escorted him on board in safety with his trophy—a portion of which was given to him as a reward, while the remainder (fourteen pounds) was added to the general stock—we could not but think, however, that he well deserved the whole.

The most western land hitherto explored in the Polar Sea, (Melville Island), in clear weather could be faintly seen from the hills in our neighbourhood; to reach which, in the ship, had ever been the object of all our hopes; and in our endeavours to accomplish this, all our best exertions and entire energies had been hitherto expended in vain. It now became a matter of primary importance to reach it by means of a travelling party, with a view of ascertaining if any of the ships, comprising the Expedition under command of Captain Austin, had arrived there—or if a depôt of provisions had been formed to succour any portion of our (the western) Expedition, that might be compelled to seek for safety on its desolate shores; for we always considered, in the event of casualties that we should certainly find, relief at Melville Island. Fortunate it was for us that no such

casualty occurred. Although in a position equally advantageous for doing so, from our former winter quarters, it was not then considered necessary: and deeply did we at this time regret, that we were not in possession of such intelligence as a journey to this island in 1851 would have afforded us. Having been called on to select a party for this service—an officer and six men, from the most efficient of our crew, and accompanied by Captain M'Clure, on the 11th April they started for Winter Harbour in Melville Island with twenty-eight days provision.

This event in itself produced an agreeable amount of excitement throughout the ship, and appeared to exercise a cheerful influence on the minds of all. There now appeared a prospect of effecting a communication with a portion of our fellow-countrymen, for the idea was universally entertained amongst us, that one or more ships would be found at Melville Island.

All our protecting agents against the winter's cold were removed towards the middle of the month, and we had the satisfaction of seeing the hull once more exposed to view. On the 20th of April, we were gladdened by the appearance of the little Snow Bunting—about the same period as it had visited us on the previous year—whose cheerful warbling told us of the approach of a more genial season, and that the feathered visitors of summer were on their way towards us.

On the 21st, several of us, out hunting in different directions on the land, lost our way during a dense haze which covered it, and it was not until we had wandered about for ten hours, that on the weather becoming clearer we were able to regain the ship. Walking having become difficult and fatiguing from the depth and softness of the snow, and being without food, we were quite exhausted on our arrival. On the 22nd, we were rendered rather uneasy by the prolonged absence of Mr. Wynniatt; but at 10 P.M., he was observed coming over the hill near the ship, and on a nearer approach it was evident that he had not returned empty handed. The good fortune which generally attended him in the chase, had again fallen to his lot, as we could see that he was laboriously dragging a Deer. He had shot it several miles from the ship, and rather than leave it a prey to the Foxes, had determined to bring it on board. This he succeeded in doing after nearly seven hours laborious exertion—the state of the snow rendering such an undertaking extremely toilsome, as his appearance fully testified. As soon as he was recognized, a party went out to relieve him of his burden.

Towards the end of this month, the first case of Scurvy was placed on the sick list, attended with great debility; others soon followed, and some assumed a very aggravated character. From this time, the disease became more generally manifest, associated with debility and rheumatism in various

forms. Our success in the chase this month exceeded that of any other, during our long sojourn in the Polar regions, having shot nineteen Reindeer, (which gave us 1155 pounds of meat,) sixteen Hares and a few Ptarmigan; they most pleasingly garnished our yard-arms where all were suspended. The month was in every respect more favourable than that of the previous year—the mean temperature was 1°.4 below zero, upwards of three degrees higher—and the wind was less in force being 2.5. Snow fell more abundantly—no less than fifteen days out of the thirty; and heavier in character than before.

The 'merry month of May,' was again most cheerfully welcomed, and with it the season of constant daylight, as the Sun was invisible but for a short period at midnight on the 1st. Nothing of interest occurred during the early days of May, except the usual incidents ever attending our vigorous prosecution of the hunting. We had occasionally, throughout the season, allowed the Deer a few days' respite, that they might recover from the state of wildness and terror our unceasing efforts had created, and render an approach more easy on again resuming the sport; a plan that certainly contributed to our greater success.

On the evening of Sunday the 7th, Captain M'Clure and party returned from Melville Island, all bearing the usual marks of toil worn Arctic travellers; a fatigue party had met them some distance from the

ship and assisted them in, and at 7 P.M. we welcomed them on board. They stated, that from the period of their departure on the 11th, the weather proved very unpropitious for the prosecution of the journey; no less from its dense, hazy character, than the quantity of snow which fell, at times not enabling them to see more than fifty yards ahead; and on the night of their departure they found themselves walking over the land to the N.E., until its uneven character made them aware of their mistake—so difficult was it, under the circumstances, to distinguish land from ice. On the second day they shaped a course for Cape Hay—the most southern point of Melville Island—and from this period they encountered the utmost difficulty in their advance; the ice being of a very heavy, hummocky character, and the snow so soft that they sunk nearly knee deep at every step. They were frequently brought to a complete halt, so that it was only by the greatest exertion that they could bring the sledge, foot by foot, over the heavy ice that was everywhere met with. Their progress for several days did not exceed a few miles—thus falling far short of their expectations and preventing them from forming any opinion as to the probable termination of the journey. It was, in consequence, resolved to place the party on two thirds allowance of provisions, and as they were quite incapable of working for twelve hours continuously at the sledge, they determined to travel and sleep six hours alternately—a

very judicious arrangement under the circumstances, and well adapted to men, all more or less debilitated, as they then were. As they advanced, their difficulties appeared to increase to such an extent, and their progress became so slow, that they pitched their tent, considering it impracticable to prosecute the journey. Before finally giving up the attempt, however, some of them advanced to reconnoitre the state of the ice ahead, and had barely been an hour absent, when they came on an extensive plain of flat ice of the previous year's formation, stretching away to the northward as far as they could see. They immediately retraced their steps, highly elated at the discovery they had made, and the party having been refreshed, started with fresh vigour and energy over the rugged way which lay before them, until the flat ice was reached. Up to this period they had been three days without seeing the Sun, or obtaining any observations; so that it is difficult to say what may have been the extent of their wanderings; but on the weather becoming clear they found themselves considerably to the westward of their proper course—Cape Hay bearing N.E. by E. and off that part of the island which we could discern on clear days from the hills in our neighbourhood. They reached Winter Harbour early on the morning of the 20th, on the eighteenth day of their journey—one of which they were obliged to keep under canvas from the prevalence of a north-west gale. Previous to their departure,

we indulged in confident expectation of their finding one, if not more of the ships composing Captain Austin's Expedition; but on entering the harbour, when it became fairly exposed to view, they were bitterly disappointed on finding it deserted. Instead of meeting with a ship, nothing was to be seen but the snow-clad wilds of this desolate region.

On examining this locality, so celebrated as having been the winter quarters of Sir Edward Parry's expedition in 1819-20, their attention was attracted by a large mass of sandstone, some eight or nine feet high, on which was inscribed a record of the visit of Parry's ships. On the summit of this remarkable stone a few small stones were piled together, amongst which they found a small flat tin case, containing a notice recording the visit of a party under the command of Lieutenant M'Clintock, on the 6th of June, 1851, from Captain Austin's Expedition. Therein that officer (Lieutenant M'Clintock) stated, that the expedition had wintered between Cornwallis and Griffith's Islands; that a depôt of provisions with a boat, were at Port Leopold, (of which we were aware) and a small depôt, likewise, at Cape Spencer, distant nearly 600 miles, (by travelling)—with some other intelligence connected with the party; *but not one word did it contain of the important intelligence, that traces of Franklin had been discovered by these ships the previous year at Beechey Island.* We might have been making fruitless efforts in other directions, had we been in a fit state; but

everything of the kind would have been avoided, if we had been informed of what had occurred. The great and primary duty of an officer in prosecuting such a search, is to give intimation, to those similarly engaged, of the success he has met with. This was, I regret to say, neglected, nor was it for twelve months afterwards that we became aware of the circumstance. There could have been no idea entertained, that this record would ever have been seen by human eyes, much less by a section of that Expedition to which we belonged: no one apparently having entertained the possibility of our reaching so far to the eastward, as at any time to seek for succour at this far-famed island. Thus, Melville Island, to which we ever looked with a degree of confidence, bordering on certainty, as a refuge in the event of any calamity occurring, was unprovided with aught that could succour or assist a party, if any of us had been unhappily cast on its desolate shores. We then concluded—as subsequent intelligence proved, justly—that all the ships comprising Captain Austin's Expedition, had returned to England in the autumn of 1851; that in the absence of any intelligence of our long lost Consort, the 'Investigator' was the only ship in the Polar Sea; and that on our own energy and resources we then alone had to depend.

The party having had some refreshment and repose, and deposited a record of their visit in the cairn on the sandstone, stating the ship's position, and other

circumstances connected with our voyage—at 6 P.M. on the same evening took their departure, after a sojourn of eighteen hours. Their homeward journey formed a marked contrast to the outward one, from the flat character of the ice, and improved state of the weather. About fifteen miles from land, they came on a continuous plain of flat ice of the previous year's formation, which brought them to the northern shore of Baring Island, corresponding to the expanse of water seen at the close of the previous season (October 1852). They reached the ship on the tenth day, and, with the exception of the frost-bites they had received, and a few of the men being afflicted with snow blindness, they were well; but all were considerably reduced in flesh. The only traces of animated nature seen, were some old deer tracks, a few Hares, and a small pack of Ptarmigan—the former were so tame, that they came up close to them, and one came to the tent door and took some biscuit crumbs from the hand of one man, whose better feeling would not allow him to kill it.

We had thus, at length, connected our Expedition with that of the eastern, although too late by a year, to be then attended with any good results; but the fruit of the seed then sown, was reaped subsequently. We had also made, to a certain extent, the North-West Passage, from the fact of our men having reached a locality, where ships had previously been from the eastward, (Parry's 1819—20) and the only thing left

for us then to do, was to reach it in the ship in the ensuing summer.

The remainder of the month of May was unmarked by any incidents of consequence; the mean temperature was 8° colder than that of the previous year, but the wind and weather generally was much of the same character; snow fell on seventeen days during the month, and the season appeared to be generally backward. The result of our efforts in the chase were very satisfactory; they were at this time carried on entirely at night, from about 8 P.M. until 4 or 5 o'clock the following morning, as exposure to the sun and snow, during the day, generally entailed an attack of snow-blindness. We had shot ten Reindeer, four Hares, and ninety-nine Ptarmigan. I observed that only two species of the latter frequented this land; the Willow Grouse (*Tetrao Albus*), and the Ptarmigan Grouse (*Tetrao Lagopus*); the Rock Grouse (*Tetrao Rupestris*), which had been so abundantly met with in the Strait of Prince of Wales, was entirely absent. On the last day of the month, we saw two Snow Geese (*Anser Hyperboreus*), the first of the season, flying in a northerly direction, and soon afterwards a few Gulls (*Larus Glaucus et Argentatus, Lestris Parasiticus*) pursuing the same course—a pretty sure indication of the progress of thaw, and the existence of water somewhere in our neighbourhood. With the exception of the little Bunting, the Snow Geese are the first arrivals from the southward,

as they likewise are the first to leave the dreary regions of the north, on their southerly migration, in large flocks. The North American Crane (*Grus Canadensis*), was likewise one of our earliest visitors; it was seen in the middle of May, and soon afterwards I was fortunate in procuring two good specimens—they are very destructive to the little Lemming, which constitutes their principal food. The Common and King Eider Ducks (*Anas Molissima et Spectabilis*), Brent Geese (*Anas Bernicla*), Great Northern, Black and Red throated Divers, are the next to make their appearance, followed by the Pintail and Longtail Ducks, (*Anas Caudacuta et Glacialis*) — the latest visitors of the season, as they are also the last to desert us. These birds generally took their departure in the same order as they arrived. Short as the period of their stay is, it is impossible to describe the cheerful aspect which their presence imparts to regions hitherto so deserted and dreary, and over which the most death-like stillness universally prevails; or to speak of the exhilarating, salutary influence which it never failed to exercise on the mind. All the birds—excepting the Ravens and Ptarmigan—are migratory in their habits, and with the advent of summer seek the solitudes of the Polar Sea for breeding and moulting. As soon as the young are sufficiently fledged, they again betake themselves to the southward; the character of the season much influencing the period of their departure.

CHAPTER XXI.

Laborious Occupation of the Crew—Its Effects—Thickness of Ice—Birds—Wolves and Reindeer—Incidents of Sport—First Appearance of Water—Aspect and Geological Character of the Land—Incidents of Sport—Red-throated Diver—State of the Ice and Weather—Health of the Crew—General Appearance of Scurvy—Recommendations made to prevent it—Pleasing Intelligence—Two Musk Oxen killed and Incidents—Great Northern Diver shot—Bears—Presence of Birds—Ice reported in Motion—Seals killed—Open Water seen to the Northward—Sorrel and Scurvy Grass—Their Effects—State of Ice—Mercy Bay—Its Aspect—Young Ice formed—Ship Frozen in—Gloomy Prospects—Further reduction of Provisions—Plan proposed for abandoning the Ship—Results likely to follow its adoption—Our Necessities—Cold and Hunger—Its Effects and Incidents—Hunting, its Difficulties—Close of the Year, &c.

THROUGHOUT the entire of May and until an advanced period in June, our men were employed in ballasting and watering the ship preparatory to our expected liberation. At this work their eyes were much exposed to the combined influence of snow and sunshine, as the ballast was all collected on the still

snow-covered land, and firmly frozen in the soil, whence it was dragged on sledges through soft, thawing snow to the ship—a work of no light nature. The consequence was that Opthalmia (snow blindness) became very general amongst them, and the cases more severe than at any former period of the commission. Upwards of one third of the crew were placed on the sick list, although the precaution of wearing crape veils or glasses had been enforced; but on this, as on other occasions, the usual imprudence of the sailor prevailed. On the completion of the ballasting, we commenced to take in our supply of water, which was found of good quality in a small lake about a mile distant inland. This continued laborious work—on men who had previously been making such exertions in hunting, on a small allowance of food—produced the effects that might have been anticipated: They began to present an altered and haggard aspect, and to complain of a feeling of general languor, weekness and debility. In consequence, the fresh meat was issued in somewhat larger quantity and more frequently, for a period of a couple of weeks, which better enabled them to continue their arduous employment. Afterwards the internal work of the ship was commenced, in making the necessary preparations for sea, which constituted the principal spring operations for this year. The thickness of the ice on the 1st of June was found to be two inches less than last year—six feet ten inches—

while that in the pond from which we obtained our water, was seven feet ten inches; which may perhaps be considered a fair estimate of the difference existing between fresh and salt water freezing.

A specimen of the North American Crane was shot on the 3rd—it was a noble looking bird, was 2½ feet high, had an expanse of wing of 4½ feet, and weighed 8 lbs. The Golden Plover, (*Charadrius Pluvialis*), the Phalerope, (*Phalaropus Platyrynchos*), the Purple Sandpiper, (*Tringa Maritima*), and Sanderling, (*Calidris Arenaria*), were frequently shot at this period. Another wolf adventure had likewise occurred to the boatswain, who, when in pursuit of a Deer, saw it suddenly stop on the top of a hill, about 300 yards distant, at the same moment several Wolves made their appearance in quick succession, none of which had been previously seen. They formed a circle around the affrighted Deer, and in a crouching position gradually closed on him. Suddenly, as if by some preconcerted signal, they all sprang on the animal, and immediately brought it to the ground, when the work of devouring it commenced. He remained a spectator of the scene, fired two shots at the Wolves, (ten in number), and advanced towards them, when they decamped. About fifteen minutes had elapsed from the time he first saw the Wolves, and there was nothing of the animal remaining but the skin, with the spine, antlers

part of the head, and bones of a hind leg—the rest having been devoured. The bones he brought on board—they were cleanly picked, with small shreds of flesh adhering, and formed poor recompense for his spirited exploit. Subsequent observations led us to infer that this is the usual mode adopted by the Wolves in killing the Reindeer; they first detach one from the herd, and then it becomes certain prey. A Deer that was shot on the 8th, having been left on the land until the following morning, was found nearly consumed; a Wolf, Fox, and a Raven were observed feasting on it, but decamped on the approach of the party. Two Snow Geese were also shot by one of our men—the stratagem practised by the sportsman was, I think, worthy of success, as there were only two birds. One fell at the first fire, and the other took wing. "Jack" very cunningly put the dead bird in a sitting posture, and lay in wait for a few minutes, when the other rejoined its mate, and forfeited its life for its fidelity. The average weight of the Snow Geese was about 5½ lbs. each, and the flesh is sweet and well flavoured.

The first appearance of water on the ice, was observed on the 16th—a pool a few inches deep having formed; and on the 21st, the first rain of the season fell. The thaw afterwards progressed more rapidly, and numerous pools of water formed on the floe and land; indeed, the water had begun to run through the ravines, the sound of which fell delight-

fully on the ear, amid the death-like stillness that prevailed. There is a feeling of enjoyment one experiences in these solitary rambles over the most desolate regions of the globe, while contemplating the progressive seasonal changes, that we hope are to work our deliverance, and free us from the gloom of Arctic life, of which it is impossible to convey an accurate idea.

On the 17th, I proceeded with an attendant to the hills on the opposite side of the Bay, to direct the removal of some specimens, and complete my geological examination of the land. In my course I visited two small islands in the centre of the Bay; they possessed no interest, except in affording evidence of their having been at one period visited by the Esquimaux in their migration along the coast. A few large masses of sandstone and clay-slate were collected on their summits, and a sort of embankment was thrown up around them, from the pressure of ice. The larger of the two is about one-third of a mile in length, 300 yards broad, and about thirty feet high in its centre, and has been apparently upheaved from the bed of the sea. The physical aspect of the land partakes of the same irregular, hilly character as other localities I have elsewhere spoken of. The soil is sandy, but in the ravines and valleys it is mixed with alluvium forming a rich loam, which highly favours vegetation, and affords good pasturage for the hungry denizens of its wilds. Clay-slate, sandstone, clay-

ironstone, calcareous and granitic pebbles everywhere abound, and form the superficial covering of the land, with boulders of Plutonic origin scattered here and there over its surface, particularly on the summits of the higher lands. At the south-end of the Bay and about 700 yards from the beach, which is flat and swampy, there is a remarkable limestone formation, rising almost vertically to the height of 500 feet, amidst a large collection of debris and huge masses of the parent rock—forming a formidable outwork at its base, resulting from ages of disintegration. Its character is mountain limestone, and contained fossils. The species were less numerous than those met with at Cape Crozier, *Encrinites*, *Corallines*, *Terebratulæ*, *Pecten*, *Cardium*, *Producta*, and a few others. Extending inland, and in a north-east direction, a chain of isolated table hills are met with, possessing a like general appearance and geological character. The northern coast of Baring Island, to the eastward of the Bay of Mercy, (Banks' Land) is composed of a dark-brown sandstone, forming a chain of rather precipitous cliffs from 500 to 600 feet high, in which pieces of coal (*Anthracite*) have been found.

The excursion was a harassing one, from the progress of thaw—our course lay through soft snow and water, which so benumbed the feet and legs, that we were frequently obliged to stop, remove our boots and stockings, and by friction restore suspended anima-

tion, as the worst frost-bites result from this cause. We reached the ship considerably exhausted after ten hours constant exertion. Two Bears were seen on the 23rd, about half a mile to the northward, moving leisurely about. A few of us sallied out in pursuit, but they went off before we could reach them, and the flat ice afforded no cover by which we could approach them unobserved; this is another instance of their shunning armed men. A fine specimen of the Red-throated Diver (*Colymbus Septentrionalis*) was shot—the first we had obtained—several others were killed afterwards, as they came up in considerable numbers when the water began to form. A Deer was shot on the 24th, and left on the land, but the place was considered too distant to send a party for it. We thought, however, it was much too valuable a prize to be left a prey to the Wolves and Foxes; and the chances there still existed of procuring a part, if not the whole of the animal, reconciled us to the fatigue of a journey, as it would become the property of those who would bring it on board; we therefore agreed to make an effort for its recovery. Accordingly in the evening, a party of five left the ship—two officers from the gun-room, two warrant officers, and one of the men; and after a long and harassing march found the Deer. The men at once set about skinning and quartering the carcase, and having effected this, four of them took each a quarter, the fifth the head, and two Hares

which they had shot. They returned to the ship, bringing a most acceptable addition to our scanty fare.

The thaw did not progress this season with the same degree of rapidity as in the previous summer; water did not form on the ice till after the first rain, and the snow but slowly and partially disappeared from the land. As it did so, however, Arctic vegetation commenced with its usual rapidity, and the stunted Flora of the north, arrayed in all their simplicity and beauty, most pleasingly adorned the surface of the barren soil; scattered here and there, wherever the fostering sunshine nurtured their growth, and the blighting influence of the chilling wind could not assail them, during the short summer of their existence.

The weather during the month of June formed a marked contrast to that met with, at the same season in temporate climates—the mean temperature was 31° 5′, being 9° less than the previous year. Snow fell on twenty, and rain on four days, and strong north-west and south-west winds generally prevailed. The mean thickness of ice was found to be 7 feet 2 inches—thus showing an increase of three inches during the month; by no means a cheering circumstance, when compared with that of last year, their being then a decrease of two feet two inches. The hunting was not so successful as in May—we had shot eight Reindeer, twelve Hares and about eighty Ptarmigan and wild fowl, of the species I have elsewhere mentioned.

The monthly inspection of the crew, had, since February, revealed a state of things in each successive month, less satisfactory than the preceding; this I, on each occasion, duly represented in the proper quarter, and recommended what I considered necessary to obviate the growing evil. On the 1st of July, however, I found that the scorbutic taint was becoming so generally developed with a daily increasing sick list, that I felt it my duty strongly to represent the great necessity there existed of placing the ship's company on a more liberal scale of diet, and on a larger proportion of vegetable food, with a view of arresting, if possible, the progress of scurvy. If the resources of the ship were not sufficient to continue the full allowance of provisions throughout another winter, (if destined to spend a third within the Arctic circle,) I pointed out the necessity there existed, and the amount of good that could not fail to result from the adoption of this course for a period of at least three months: as it would enable the men better to withstand the labour which must ensue on the breaking up of the ice. For in the event of our liberation, and making some easterly progress, of which we had every reason to hope, so as to get within an available distance of some of the depots in that direction, we could then, of course, have nothing to regret. Assuming that should we be so unfortunate as not to succeed in either, it would partially at least recruit the strength of the crew, and fortify them in some

degree against the rigour of another winter, which would, I feared, prove fatal to some, and be most severely felt by all. To these suggestions, Captain M'Clure declined to accede, or to make any addition whatever to the then scanty allowance of provisions. Their debilitated state at the time was in a great degree produced from the vast amount of physical exertion entailed by the hunting and other work, followed by fatigue and exhaustion, without having food sufficient to repair the waste of body. The severe and trying work which the numerous sledge parties endured, in bringing on board the product of the chase in long and harassing journeys, over a rugged, snow covered land, tended largely also to favour it. From a chain of causation so direct, there could be little difficulty in tracing the state of the sick list at this period; nearly one third of the men were placed on it with scurvy in various stages of development, and all complained of debility.

Our stock of venison was then exhausted, and we could only depend on what small game we could procure. Shooting was becoming very trying to men already much debilitated, from the quantity of water everywhere met with on the floe and the land, through which we were necessarily obliged to wade. The lower half of the body was, therefore, always thoroughly drenched in these excursions, as we found it less fatiguing, wading in the water than walking

over the land. We were not destined, however, to be long without fresh meat. On the 8th, the Serjeant of Marines left the ship about noon, and some hours later, when returning, he observed two Musk Oxen lying down—one of them asleep. He was able to advance within 120 yards, when he fired and wounded the larger; both had at this time got on their legs. On the receipt of the first wound, which did not appear to affect him in the least, the animal approached with a most ferocious aspect until distant about forty yards, when he stood as if about to make a charge; his assailant again fired, and again wounded him, but he still remained in the same attitude. The other had by this time approached more closely, and with the view of securing both by disabling the second, he fired and wounded him; the animal became enraged, and, although less formidable looking than the other, advanced more courageously. The Sergeant, in the mean time, reloaded and fired his fifth and last ball at his first antagonist who still remained in the same position—the missile struck him in the centre of the forehead, passed through his brain and he fell to the ground. His ball cartridge having been then expanded, he quickly reloaded and fired the screw of his ramrod at the second animal, which had approached more closely, and wounded him in the neck, when he fiercely advanced to a distance of only a few feet. Thinking he was about to make a final rush, as a last resource, he fired his ramrod,

which entered at the left fore-shoulder, passed diagonally through his body and out at his right flank, inflicting a fatal, raking wound; and he fell lifeless at his feet. Thus by his own efforts, he had accomplished the greatest sporting feat, and one, attended with the greatest amount of good that had yet fallen to the lot of any individual amongst us. On the following morning, the 9th, two sledges were dispatched to the scene of the previous day's exploit, but did not return until 5 P.M. The party were much exhausted, some being barely able to reach the ship. One of the sledges had slipped off the bank into the water that had formed along the shore, carrying with it one of the men. He tenaciously clung to the sledge, which floated in deep water, and in about fifteen minutes they succeeded in bringing all in safety to land. The man was nearly lifeless from this short immersion in icy cold water, and it was only with difficulty that they succeeded in establishing reaction after the lapse of a considerable time. The larger of the two Oxen, was even in death, one of the most formidable looking animals I have seen. He measured seven and a half feet in length, six and a half in circumference, and was 767 pounds in weight—viz. meat 374 pounds, head and skin 140 pounds, other parts 253 pounds; the stomach was one of the most capacious receptacles for food that had come under my observation, and measured thirty-nine inches by twenty-seven inches.

The other animal was younger and smaller, and a male likewise; it weighed 565 pounds, and afforded us 273 pounds of meat. Both were in excellent condition, and the sight of such beef was quite a novelty,—we feasted our eyes on it for the remainder of the evening.

The Musk Ox (*Bos Moschatus,*) is essentially an inhabitant of the Arctic Circle, seldom ranging far to the southward of it, and is found most abundantly on the north-eastern lands of America, and as far north as latitude 77°. These animals are met with singly and in herds—the latter generally from five to fifteen; but at Melville Island—as many as seventy have been seen together. Their favourite resort appears to be the ravines and valleys, particularly those along the coast, where in summer the pasturage is more abundant. It would appear that they advance to the northward as the snow disappears from the land, although many are its constant occupants, and have been shot throughout the winter. When met with, either singly or in herds, they show but little alarm on the approach of the hunter; when in herds, the younger animals are kept in the rear, the older in front; and flanking them, in this way, they will allow a hunter to approach within twenty or thirty yards of them, and steadily receive his fire. They then become an easy prey to expert or skilful hunters, and I have known several instances where whole herds have been decimated without moving more than a

few yards from their original position. The suddenness of the attack appears to frighten them, and prevent their flight, and from the great parental solicitude they evince for their young, a well-directed attack of a few hunters seldom fails of complete success. They often become ferocious when wounded—numerous instances have occurred, where they rushed at the assailant, and were only arrested in their course by a fatal shot. The meat is of excellent quality, particularly in the autumn, and in taste resembles beef, with the exception of its having a slight musky flavour, particularly if eaten soon after it is killed. This is stronger in the blood of the animal than in the flesh, from which it is exhaled as the former flows from the body—it is also met with in the viscera in a marked degree, but not to such an extent as to render it disagreeable to the taste; in the young animals it is almost entirely absent. The colour of the Musk Ox is of a dark brown. One was seen by a travelling party on Melville Island in a large herd, of a pure milk-white—the only instance, I believe, on record. The inner wool is of the finest description, and capable of forming the most beautiful fabrics manufactured.

On the 18th, two of the great Northern Diver (*Colymbus Glacialis,*) were shot in a small lake near the ship. Some idea of the density of plumage and thickness of the skin may be formed, from the fact, that they each received six well directed shots before

they were killed. They were each 32 inches high, and 53 inches in the expanse of wings, and weighed 10½ lbs. and 11¼ lbs. respectively; they were very beautiful birds, and the first we had seen. About the same time a couple of Stoats (*Mustela Erminea,*) were killed, and I am not aware that they have been hitherto met with in so high a latitude.

One of our men, (Wm. Whitfield,) who had gone the previous evening to the entrance of the bay, suddenly found himself close to a Bear, which had advanced within 20 feet of him and there stood. Considering it imprudent to attempt to retreat, he prepared to act on the defensive only, brought the gun to his shoulder and fearlessly awaited the expected attack; when another Bear appeared in sight, and came up at a brisk pace within about 40 yards of him, and halted. In this position the three stood for the space of several minutes, when to his inexpressible delight, he was relieved from this most unenviable situation, by their turning round and walking off to seaward; he then made all possible haste to the ship, rejoicing at his narrow escape.

The Brent Geese, Pin-tail and Long-tailed Ducks, were about this time very numerous, and many were shot; the former became an easy prey, as they were moulting, and we frequently ran them down on the land.

About the middle of the month, the ice was reported to be in motion outside the harbour, but no

water was yet visible. We fancied the distant sound of running water might have been mistaken for it.

On the 23rd, two Seals (*Phoca Vitulina*) were killed, and proved a welcome addition to our mess. One was shot in the open water running along the shore, and the other was killed in rather a novel style by Mr. Piers. He was returning on board after an unsuccessful morning's sport, and saw the Seal asleep on the ice near its hole. He succeeded in walking up close to it, and with a well directed blow on the head with the butt of his gun, killed it on the spot. This was the more strange, as we had ever found the greatest difficulty in approaching these wary animals. It weighed ninety pounds, and was four feet in length with a good coating of blubber. The flesh is of a dark colour, without much flavour, except that oily taste imparted to it by adhering fragments of blubber, but keen appetites required no relish for food, which necessity only compelled us to eat. Indeed, at this time in our hunting excursions, the smaller birds when they could be procured, were eagerly eaten while yet warm and raw by the hungry hunter.

On the 31st, open water was seen from the high land, extending for some distance outside the boundaries of the bay, and as the ice was entirely detached from the shore by a narrow lane of water, we earnestly hoped for an early release. Towards the middle of July, Sorrel (*Rumex Domesticus*) and Scurvy Grass (*Cochlearia Officinalis*) made their

appearance on the land—the former in considerable abundance—and being fully impressed with their value, under present circumstances, as antiscorbutic agents, I represented the necessity there existed of using our best efforts in procuring them, and the good effects which would certainly attend their regular issue to the ship's company. In furtherance of this object, a number of the men were daily employed in gathering the Sorrel,—the Scurvy Grass being scarce,—and the quantity obtained was such as to afford a small allowance to each man daily, after the wants of the sick were supplied. The Sorrel, when eaten alone, or with the addition of a little vinegar and mustard, forms a most agreeable and excellent salad, highly relished and eagerly sought for by all. When boiled, and eaten as a vegetable, it was a valuable addition to our scanty meal, but appeared to me, to be less efficacious as an antiscorbutic agent in the latter state than in the former, in which way I should recommend it to be used. I had ample evidence of the beneficial effects resulting from its use; for on the 1st of August, I could clearly discern an improvement in the general appearance of the men, and the majority expressed themselves as feeling generally better than they had done a month previous. I should also mention that during this time, they were able to procure Ducks, Geese, and other birds occasionally, each man being allowed to retain for his mess the small game he shot, which ever proved a most acceptable

addition to it. For a short period, therefore, the evil which threatened us appeared to be partially arrested; clearly proving the necessity there existed for fresh vegetable and animal food.

As August came and advanced, we continued to watch the state of the ice with daily increasing interest and anxiety. Open water was again joyfully reported on the 10th, seen from the high lands in our vicinity, off the entrance of the bay, outside which the ice appeared in motion, but as yet the bay-ice remained quite stationary, and the persistence of northerly and north-west winds proved highly unfavourable, by blocking up the entrance, and thereby preventing the ice from setting out of it. As may readily be supposed, winds from an opposite quarter would have had an opposite effect; and strong southerly winds were now anxiously looked for, to set the seaward ice off shore, and facilitate the escape of that in the bay. I should mention that the position of the ship in this ever to be remembered locality, was a somewhat peculiar one. The bay, in which we were, was irregularly funnel-shaped in appearance, fifteen miles deep, and seven broad at its entrance; about this were numerous shoals on which the ice was grounded; those on either shore were separated from it by a channel of considerable depth. From the points, that flanked the entrance, we had taken up a position the previous year, nine miles distant in four fathoms water, and about 600 yards from its western shore

—the bay itself presented a northerly aspect. In it we found the compass had a variation of 112°. easterly. It required, therefore, a combination of the most favourable circumstances to free it from its ice. The season was a backward one, there could be no doubt; although the temperature of air was considerably lower than in the previous year, yet the ice was everywhere detached from the shores of the bay, and as we had entered it so late in September, 1851, when it was clear of ice, we still hoped for, and expected a timely liberation, provided the temperature kept up, and the great moving power—strong southerly winds—were present. Unfortunately in both hopes we were disappointed; the northerly winds still prevailed, and the temperature fell steadily, so that on the 19th of August, young ice had formed on the water, and on the 27th, it was sufficiently strong to admit of our skating to the shore. Our summer visitors of the feathery tribe, whose presence had so lately cheered our hearts, had about this time entirely forsaken us; and the land but so recently denuded of its snow, had again assumed its wintry garb—too truthfully declaring, that the summer had passed, that another season had commenced, and that the days of cold and darkness were again approaching.

September came, and before its first week had expired, all hope of our liberation that season had vanished. The more sanguine amongst us had, up to this time, clung to the hope of our being yet set free,

in consequence of the late period of the season we had entered the bay; but the gloomy prospect then before us, dispelled it from our minds. We had, therefore, the cheerless and melancholy reflection that another winter, at least, must be spent in the same dreary locality; this, it is needless to say, produced a feeling of depression amongst our crew. We had long felt the want of sufficient food, were fully conscious of our own increasing weakness, and had indulged too confidently in the hope, that with the close of the season, all the privations we had hitherto endured would cease; consequently in proportion to the degree of confidence, came now the bitterness of disappointment.

It was known that the ship was inadequately provisioned for another year, were we to risk remaining in her, with the small chances there appeared of getting free. It, therefore, became quite clear that all, or a portion, of our crew must leave the ship in the ensuing spring, and that the provisions must be still further reduced, if she was not totally abandoned. We remained in ignorance of Captain M'Clure's intentions on the matter, until the 8th, when they were made known to all on the quarter-deck. That in the ensuing spring, he would detach from the ship one half of the crew in two divisions: the larger of which, consisting of the senior Lieutenant, Assistant Surgeon, two Mates and twenty-two men, would proceed to Cape Spencer—distant about 550

miles, with provisions for forty-five days—where we understood a small depôt had been left, together with a boat. From this locality as soon as the season would admit, they were to use their best efforts in searching for a whaler, or endeavour to reach some point of succour on the distant shores of Baffin's Bay, from whence they might be forwarded to England. The other and smaller party, consisting of the second Lieutenant, Interpreter and six men were to proceed along the shore of Banks Land, and through the Strait of Prince of Wales to the Princess Royal Isles, where we had left a boat and depôt of provisions. There they were to remain until the ice broke up, when they were to make an attempt to reach the coast of America, and proceed to one of the Hudson's Bay Company's posts on the Mackenzie River, whence they were to be forwarded on, through North America to England. I could only view this contemplated hazardous undertaking in the most serious light, from my knowledge of the debilitated condition of the men. I could arrive at no other conclusion than that they were utterly unfit for the performance of the service, and that they would be still more so at the expiration of eight months, after having passed through the trying ordeal of a third Arctic winter. To enable men to undertake such a journey as that by Cape Spencer, it would require them to be in a high state of health and vigour; even then, the risk attending it would be considerable.

The journey *viâ* Prince of Wales Strait, was much more likely to prove disastrous in its results. The weakest of the men were to proceed by this route, some of whom would be unable to walk; and in their condition, a sojourn of three months under canvas, while waiting for the breaking up of the ice, followed by the severe labour necessarily entailed in transporting a boat through an ice encumbered sea, when barely able to guide themselves, could not but excite the gravest apprehensions amongst us. Captain M'Clure had been fully informed by me, on many former occasions, of the state of the men; nevertheless, I felt called on again, to represent their condition, and to express my opinion of their unfitness for the performance of this service, without entailing great and inevitable loss of life. It had no result.

It only remained for us, therefore, to bear with patience and fortitude the privations inseparable from our situation; to hope for strength and courage to meet and overcome those still greater, which awaited us; and to carry out the proposed plan, in our respective departments with all the zeal and energy the circumstances then imperatively demanded.

From this date, the 8th September, the provisions were still further reduced, chiefly in vegetables—two and a half ounces of which was the daily issue; the quantity of meat issued was eight ounces daily, but making due allowance for bone in the salt, and jelly in the fresh meat, the average weight did not exceed

six ounces, which with ten ounces of flour constituted the allowance on which we had lived for the previous twelve months; the articles tea, cocoa and sugar were issued in fractional parts of an ounce. That this allowance is quite inadequate to maintain health in an Arctic climate, our condition fully proved; much less is it able to sustain life for any lengthened period, if laboriously engaged and exposed to the rigorous severity of intense cold.

The Lime juice, the regular issue of which had been attended with so much previous good, was at this time, likewise, reduced to one half the quantity; and to my great regret, no extra food was allowed for the sick under any circumstances—the same scale of diet being ordered for all. We had previously felt much the want of food. As our private mess stock had been long exhausted, the officers were in the same position as the men; but that feeling was now succeeded by one of absolute hunger, the cravings of which were ever present, and the means for satisfying it quite inadequate. Since July we had failed to obtain any fresh supplies, when the last Deer and Musk Oxen were shot—the latter (two) all that had been seen on this part of the land.

This supply enabled us to issue fresh meat until August. We saw no Deer from this date until the last day in October, when we were fortunate in killing the first of the season. After the aquatic birds had left us, about the middle of August, we procured an

occasional Hare and a few Ptarmigan, a proportion of which I procured for the sick. In November our efforts in the chase were crowned with such success that we were enabled to commence the issue of venison three times in a fortnight, in lieu of ship's provisions as before—a most welcome addition to our dietary. The allowance of food was so small, and shrunk so much when boiled or cooked, that it merely afforded a few mouthfuls to each, and failed to satisfy the keen craving of the appetite. The consequence was, that the practice of eating the salt beef and pork raw, and the preserved meat cold or in a half frozen state, was almost universally adopted by both officers and men; and what under other circumstances would appear revolting, was then eaten and enjoyed with a degree of avidity and relish, which must be experienced to be fully understood; and this, the pangs of hunger alone prompted us to do.

This was made known to Captain M'Clure, as I felt satisfied it would contribute much towards the deterioration of health, and to the further development of a scorbutic diathesis; but it went on uninterruptedly. The feeling which prompted us to the adoption of the practice, appeared to be but little under the control of the will; and the natural repugnance to raw meat, once overcome, it was not easy for hungry men to relinquish this more satisfactory mode of consuming it.

The circumstances in which we were placed ap-

peared, in some degree, to have altered man's nature; the privations were endured with a degree of manly fortitude, patience, and endurance, which was most laudable; but all felt that the time had arrived when their own personal wants required to be attended to, and the allowance of food to be carefully and strictly divided.

In the Gun-room, each officer took charge, in succession, of the daily rations as they were issued from the Paymaster, which he divided into portions corresponding to our numbers, and these were drawn for by lot. It was generally eaten at one meal, (and that a very scanty one), unless we could practice sufficient self-denial, to save a mouthful of bread for a little weak tea or cocoa, morning and evening. We also had an "officer of the day" to take charge of the coals, (from 8 to 12 lbs.), to see that they were carefully burned at those periods of the day when we could afford to light a fire.

The quantity of oil was also very small, which only enabled us to have lights at certain periods of the day; at other times we had the option of either walking on deck, or sitting in the dark. Under all these circumstances, lamentable as it was to see a body of British officers living in such a state, the amenities and courtesies of the mess table were ever most strictly observed. *Every thing that had life* was eagerly sought and eaten, and in the officer's mess, Seals,

Foxes, and Lemmings or Field Mice, were always a most welcome addition to our fare.

Early in October, (4th), the ship's company having keenly experienced the cravings of hunger for a long time, but lately with more severity than before, came on the quarter-deck in a body, to ask for more food to their application, Captain M'Clure refused to accede. At this time, also, the effects of cold and hunger began to be very seriously felt, as evidenced in the number of admissions to the sick list—more numerous than at any former period—with diseases, resulting from these causes. The season set in colder than on any former occasion, and everything foretold that the coming winter was likely to prove a severe one—our prospect presented an indescribable picture of gloom and misery.

This proved a very trying period—the decks were in a most uncomfortable state, as none felt disposed to take more exercise than that prescribed in the usual daily routine, which was curtailed by an hour from what it had been the previous winters. The air below being of the unhealthy character I have before observed, favoured in a high degree the abstraction of caloric; the temperature of the lower stratum, or that near the deck, was several degrees below freezing, while that in the upper, was an equal number, 6° or 8° above it, and surcharged with moisture. The men were constantly complaining of the cold, which was

not to be wondered at, considering the nature of the atmosphere surrounding them, in which they sat, slept and ate; the discomfort of which was only equalled by its insalubrity, as the sick list then but too fully proved.

The usual winter preparations of housing in, snowing the upper deck, &c., were deferred until a period, later than heretofore, with a view of economizing the lights which were becoming scarce; and it was not until daylight was no longer available that these operations were completed—as we hoped for the last time.

The Sun took his departure on the 7th November, and we were again, for the third time, shrouded in a mantle of darkness with its usual cheerlessness and gloom. Our chief occupation at this time was the chase; now become more than ever a matter of duty for all to engage in who could; and as our necessities were urgent, our best energies were devoted to it. The men had become dispirited, from feeling their own inability to make the same exertions they had formerly done, they therefore did not take the same active part in the hunting as heretofore, and before the close of the year, they had almost ceased to take any part in it, with one or two laudable exceptions.* The entire weight of this duty,

* In connection with this subject, I must mention the name of James Nelson, one of our crew, a young man of good education and ability, an universal favourite in the ship; he

consequently, fell on the officers, who continued their exertions with a degree of vigour and activity beyond all praise, throughout the darkest days of an Arctic winter, and of the coldest on record; they were rewarded with a success worthy of their efforts. I have elsewhere expressed my opinion that the Reindeer never left our neighbourhood the previous year; this proved to be the case, and we were signally fortunate in meeting with them nearer the ship than at any former time,—they, together with an occasional Ptarmigan and Hare, were shot at every period of the season.

If difficulties were encountered and privations endured in the early spring months, I need not say how many additional were superadded, when the land was shrouded in darkness,—moon and starlight alone enabling us faintly to discern the outline of the object of which we were in eager and anxious pursuit. No temperature however low, sometimes to 65° below zero, detained us from the pursuit, if unaccompanied by wind; but the latter, even in a slight degree, proved unendurable. It was, therefore, a common circumstance to find a hunter return, so benumbed and helpless as to be barely able to reach the ship, and with utterance so impaired, as to render his speech difficult to be understood, until

by his exertions in hunting, his cheerful character and other good qualities, ever acquitted himself in our trying service in a most creditable manner.

rest and warmth restored those powers of nature, cold and hunger had well nigh exhausted.

Stirring incidents of sport and hair-breadth escapes were, therefore, frequent. On the 4th of December while in pursuit of Reindeer at a temperature of 36° below zero, my gun burst in my hands when in the act of firing; shattering the stock, but fortunately injuring me but little. It resulted from my inability to send the ball 'home,' having been severely frost-bitten in the act. A similar circumstance occurred, on the following day, to one of our men. The blood of the Deer that were killed was, at this time, eagerly drunk by the hunter as it flowed fresh and warm from the wound, for the vivifying and sustaining influence it exercised; but as it froze on the face as it flowed, he presented a frightful spectacle on coming on board.

Two or three, at least, from our mess, went out each day; but to enable us to withstand the fatigue of the chase, we were obliged to eat the greater portion of our allowance, with little or nothing to refresh us on our return, when worn out and exhausted, unless we happened to be successful, when a ration from our next day's provisions was given to the hunter, in lieu of the perquisites, in right of his good fortune, which were always added to the mess. At the close of the year our united efforts had enabled us to procure nine Reindeer, which yielded 874 lbs. of meat for general use. The winter had commenced bleak and

cheerless, and maintained the same character throughout, with a degree of cold surpassing in intensity anything we had previously experienced, or that has been yet recorded.

We had celebrated the discovery of the Passage, and passed our Christmas as on former years. As it was the last we should all spend together, unusual care was bestowed in decorating the tables, and giving as much *éclat* to the occasion, as the creditable and praiseworthy conduct of my associates contributed to the enjoyment of it. At the close of the year on the 31st December, the amount of growing debility and scorbutic diathesis that prevailed, contrasted widely with our sanitary condition of the two previous years —and the future presented nothing whatever of a cheering prospect. We had, however, cause of gratitude to the Giver of all Good for His abundant mercies, to the end of this, the third year of commission; the number of our crew remained undiminished, and the depressing influence of death had not yet been felt amongst us—a circumstance hitherto unparalleled in the annals of Arctic voyaging.

CHAPTER XXII.

The Year 1853—Intensity of the Cold in the early months—State of things on Board—Reappearance of the Sun—Preparation for Travelling—Two Wolves shot and Incident—Hares and Lemmings—Their Habits—Party told off—Opinions of their fitness—Increase of Food for Travellers—Its Effects—The Sick List—The First Death on Board—Unexpected Arrival of Lieutenant Pim—Joyful Intelligence of Relief—Effect produced—Reflections—A Funeral—State of our Crew—Two Deaths occurred—Want of Remedies—Return of Lieutenant Pim—His Kindness to us—Captain M'Clure proceeds to Melville Island—Departure of one-half of the Crew—Return of Captain M'Clure—Results of Journey—State of our Men on arriving at Melville Island—A Survey ordered on Board 'Investigator'—Results—Ship to be Abandoned—Preparations—Depôt formed—Abandonment of the 'Investigator'—Journey to Melville Island—Its Difficulties—Incidents—Our Arrival on Board the 'Resolute' and Incidents.

THE year 1853 did not dawn on us auspiciously; there was but little in our present condition to afford us matter for congratulation, and in the future

there was nothing whatever of a pleasing prospect. Thus we entered on the fourth year of the ship's commission, under circumstances precisely similar as those with which the preceding one had closed. The south-west gale continued, we dared not venture outside the ship, and the cold was most intense.

Our occupations were such as I have elsewhere spoken of—the same necessity existing for making similar exertions in the chase, and of undergoing the same hardships and privations. In the month of January, the temperature fell lower than has ever been experienced by any former Expedition—to 65° below zero, and in the interval of the usual period for taking the observations it fell to —67°, as the force of the wind was likewise greater 4.15. The mean temperature of the month was 43.87 below zero, lower than we had known it during any former winter, and, I believe, surpassing in degree anything recorded in former Polar voyages. The 6th January was the coldest day that has ever been known in these latitudes —the mean temperature for twenty-four hours was 61°.6 below zero—and in the twenty-four subsequent hours 56°.7—from which some idea may perhaps be formed of the intensity of the cold, during this the coldest of the cold winter months. This low degree of cold, however, did not deter us from our usual pursuits, and on the 6th, two Deer were shot, and the day following a few Ptarmigan. Such was the value attached to them, that we considered ourselves

well rewarded for what we had endured; indeed, the prospect of procuring even a solitary bird was sufficent inducement to undergo whatever amount of fatigue we were capable of sustaining.

The state of matters on board at this time was gloomy to a degree. The sick-bay was full of occupants, and the greater part of the lower deck taken up by hammocks, for I felt it necessary to keep the sick in bed, as the only means at my command of producing warmth. Dysentery, and other exhausting diseases were very general amongst the men, from the effects of cold and hunger acting on debilitated and scorbutic bodies. A few hours illness would produce the most alarming degree of prostration I have ever witnessed,—fainting and syncope were constantly present on making the slightest exertion. It was really pitiable to view what a wreck a man became after a slight attack of illness; and scurvy of an aggravated character seldom failed to supervene.

The re-appearance of the Sun was as usual gladly hailed by us all on the same day as in the previous year, but the cold, notwithstanding, continued very severe in the months of February and March, —the mean of these months being 38°.5 and 25°.4 below zero; considerably exceeding those of any former year, and the winter had been throughout unparalleled in its rigour and severity. We were in ignorance of the men who would be detached from the ship—no com-

munication having as yet been made to us on the subject, and as each man appeared to think himself quite unable to go through another winter, he preferred running the hazardous risk of the contemplated journey. Consequently, during the winter, almost the entire crew occupied themselves in making preparation for the expected march.

A party having been dispatched for a Deer on the 23rd of March, shot on the previous day, found a large Wolf (*Canis Lupus*) feeding on the carcase—they fired without effect, and he ran off a short distance. They then concealed themselves about 100 yards off, and he again returned; when a shot from Sergeant Woon's gun passed through his chest, pierced his heart, and he fell dead on the body of the animal he was devouring. He was a fine specimen, with a skin of spotless white; weighed eighty pounds, was five feet ten inches in length, and three feet four inches in height. The meat when cooked was excellent—much resembling in taste that of Fox—and we considered it preferable to Bear's flesh. Mr. Court when out shooting a few days later, met with a pack of seven—one advanced before him, another behind, howling as they approached, evidently with no friendly intention; the others were concealed behind the ridge of the hill. He vainly made sundry efforts to frighten them, then taking aim at the nearest, wounded it mortally in the neck, and it fell, but still strove to reach him by crawling: the next shot, however, was fatal, and the

other seeing the fate of his comrade, went off. Mr. Court returned to the ship with the intelligence of his adventure, when a sledge was sent for the prize,—a fine dog Wolf weighing seventy pounds. Although we had hitherto frequently pursued these animals, we were seldom able to get a shot at them. This was an instance of their ferocity—showing that they will attack single individuals if pressed by hunger.

We had remarked throughout the winter that Hares, Foxes, Lemmings, and birds, all burrowed in the snow for the sake of warmth. The Hares (*Lepus Glacialis*) frequented some localities in considerable numbers—conveying the idea of their being at certain seasons gregarious, as they were met with abundantly about cliffy headlands and ravines, where the large stones and debris afford good cover, but readily abandoned their position on any great cause of alarm; one day's shooting being generally sufficient to banish these timid animals from a locality. They were frequently found on the ice two or three miles from land—a favourite resort of theirs during spring and winter—under the shelter of large hummocks. The average weight is about seven pounds, they are very prolific, breed three or four times in the year, and bring forth eight or ten at a birth; they were found in the highest latitudes we had explored.

The Lemmings or Mice (*Mus Hudsonius*) are met with in vast numbers in some regions in the north, and are very abundant in Baring and Melville Islands.

They are about four inches long, white in winter, of a beautifully mottled grey colour in summer, the fur being very soft and fine. They subsist chiefly on the vegetable products of the soil—dwarf willow and the grasses, &c.—but they have likewise a carnivorous propensity, for I have frequently known them to eat each other. They generally bring forth from two to six at a birth; in a few instances as many as eight or nine. The flesh is delicate and tender, and was gladly eaten when it could be procured. They are met with in great numbers on the ice during the season of thaw.

It was not until the 2nd March, the day following the monthly inspection, that Captain M'Clure made known to me his intention of dispatching the weaker half of our crew from the ship, and retaining the most efficient; at the same time, he requested me to make the necessary selection. On the day following, the men were told off, much to the delight of those about to depart, and to the evident and bitter disappointment of the others. I then deemed it my duty to place on record (by letter) my opinion, combined with that of my Assistant Surgeon (Mr. Piers) of the absolute unfitness of the men for the performance of this journey. It was about the same time determined that they should be dispatched from the ship on the 15th of April or thereabouts, and as the Captain had expressed his intention of placing them on our former scale of full diet for a month previous to their depar-

ture, with a view of preparing them for their long and hazardous journey—on the 15th March this change commenced. Towards the beginning of April, I could see an improvement in their appearance; the face had not only become fuller, but more animated in expression; the dull, haggard stare of former days was less marked, and they likewise had become more generally cheerful.

The sick list, which, during the three preceding months had considerably exceeded that of any former period, was, in the beginning of April, somewhat reduced; but some of the men were in a very precarious condition, and on the night of the 5th, death for the first time made its appearance amongst us, and removed from this world, John Boyle, (A. B.) after a short illness, from the exhausting effects of dysentery, acting on a scorbutic habit. He had spoken cheerfully a few minutes before death, but on making a slight exertion in his bed, sudden syncope ensued, and he died without a struggle. This man had been appointed only the day before, as an extra attendant in the sick bay, and it was reported to me that he had taken some medicine out of a bottle which caused his death. I at once fully investigated the matter, and found it without the slightest foundation. This melancholy occurrence exercised a depressing influence throughout the ship. Those who were destined to remain, appeared to view it with the greater degree of apprehension, while those who were about to depart,

silently congratulated themselves on the better fortune, which was soon to remove them from the scene of their suffering.

Such was the state of things when this melancholy occurrence took place; but, through the mercy and goodness of Providence, a most unlooked for event occurred, which completely altered the whole aspect of affairs, and dispelled the lowering cloud of darkness that hung ominously around us, by sending the most timely succour and relief.

It was at 4 P.M. on the afternoon of the 6th of April, all was silent in and about the ship, four men were on shore, making a grave for their departed shipmate, distant from the ship about 400 yards; two officers were returning across the ice from superintending the work, when a figure was observed approaching from the rough ice to seaward. They at first supposed him to be one of our men, but as he came towards them, he proved to be a stranger. He was Lieutenant Pim, of H.M.S. 'Resolute,' from Melville Island, who had most Providentially reached the 'Investigator' after a most severe and harassing journey of twenty-eight days, being then the earliest Polar travelling on record, and made his appearance amongst us as a deliverer. Immediately a distant object was observed, treading its way through the rough ice, which proved to be his sledge drawn by five Esquimaux dogs and two men. I cannot attempt to convey any idea of the scene which took place on

board, or the expressions of joy and gladness which were so abundantly poured forth, when the intelligence that flew with the rapidity of lightning from "stem to stern," became known. It was at first pronounced either a mistake or a joke. Indeed, the mind for a moment appeared confused, as if unable to comprehend the truth of what was heard, and several strange involuntary questions were hastily muttered asked and answered in a breath. At length when thoroughly aware of the reality, and fully aroused by a shout of joy, raised by a few men on deck, announcing the approach of the stranger, there was a sudden and simultaneous rush to the hatchways; the weak and the strong, "the maimed, the halt and the blind" following each other, amazed and agitated, as fast as their enfeebled limbs could bear them, until the deck was gained, and they were afforded an opportunity of verifying what they had just heard. Some as doubting the reality of what they saw, rushed out on the ice, and were not satisfied till they met Lieutenant Pim, touched him, handled him, and heard him speak, when they no longer doubted. He was the first of our countrymen we had seen, or whose voice we had heard, for three long and dreary years. The sledge soon followed, and the party were received by three as hearty cheers as ever came from the lungs of British sailors. No words could express the feelings of heartfelt gladness which all experienced, at this unlooked for, this most Providential arrival. Relief

was now at hand—succour had reached us. On men who believed that there was no other ship within the Arctic circle than our own, and relying as we were entirely on our own resources, the joy and delight which this arrival produced, baffles all attempts at discription. The circumstances which brought about this happy result may be briefly told. On the arrival of H.M. Ships 'Resolute' and 'Intrepid' at Dealy Island, off Melville Island, in the autumn of the previous year, 1852, from England, and while employed in laying out provision depôts, to facilitate the spring travelling, in prosecution of the search for ourselves, or Sir J. Franklin's Expedition: they found at Winter Harbour the record which Captain M'Clure had deposited there in April 1852, an event as unlooked for by them, as the arrival of their party was unexpected by us. On receipt of the record, Captain Kellett determined to send a party in search of us at the earliest period of spring, and accordingly on the 10th of March, dispatched that enterprising and intrepid officer, (Lieutenant Pim) and his associates, in search of us. The party, which was originally intended to proceed *vid* Prince of Wales Strait to the Mackenzie River, was now united with that intended to go to Cape Spencer, both proceeding direct to the 'Resolute,'—the Mackenzie River route being abandoned.

We continued to indulge in feelings of inexpressible delight and gratitude, at the Providential goodness which had brought us such timely succour; nothing

was spoken of, but the all engrossing topic of this happy and unexpected relief. A new era had dawned on us after so long a period of such trying service; we were, at length, placed in communication with the civilized world from which we had been so long shut out, and we had then a safe and certain depôt to fall back on, should we fail in liberating the ship. The strange feeling we experienced on receiving European intelligence after years of absence, baffles all description; it afforded us the most delightful novelty, and relief, from the dull, unvarying topics of our daily conversation. I may here remark that in our days of adversity, there was no more popular theme amongst us, than the luxuries of other climes. It has been generally remarked, that hungry men are prone to indulge in such topics of conversation.

After one day's rest, Lieutenant Pim and party left us on their return to the 'Resolute,' carrying with him all our best thanks and wishes for the strenuous exertions he had made to reach us. It affords me unalloyed pleasure here to record the debt of gratitude, I must, in common with all the 'Investigators,' ever feel towards this officer. He was a volunteer for the duty of searching for us, and undertook the journey at an unprecedented early period of the year, (10th of March,) at a temperature of 50° below zero—nor is it this alone which entitles him to our gratitude, as nothing could exceed the kindness and warmth of feeling he showed towards us, particularly when pressing on our acceptance

many little things of which we stood in need. But when he saw us sitting down with a half-starved aspect, on the morning after his arrival, to what was denominated breakfast, (a cup of weak cocoa without sugar, and a moiety of bread) his feelings overcame him; he rushed to his sledge, then out on the ice, brought a large piece of bacon, placed it before us, and gave us the only breakfast we had known for many a long day. The remembrance of this, and his other acts of kindness to us then, will I hope, never be effaced from our recollection. Nor did the two gallant fellows who accompanied him, and who aided in our relief, (Thomas Bidgood and Robert Hoyle) feel less for our condition; for they had just arrived, as our men were about to draw lots for their evening meal (a pannikin of tea and a little biscuit)—a novel sight to them who had come from a land of plenty; but so overcome were they at the sight of our haggard crew, that their manly cheeks became moistened with tears. Captain M'Clure, with an officer and six men, equipped with sledge and provisions, left also, the same day, the 8th, to put himself in personal communication with the Senior officer at Melville Island.

On the 8th, we had to perform the melancholy duty of interring the body of our late shipmate—the first ceremony of the kind since the ship's commission. The procession wending its way over the ice to the adjacent beach—where we laid him in his cold and icy grave—presented a picture of the most touching

solemnity. Relief had not come too soon, our men being in such a state of scorbutic debility, that a slight illness, which under other circumstances would pass unheeded, was ever attended with danger.

I had long felt acutely the painful position in which I was placed, from the scanty means at my command for their alleviation; hunger was ever present; it lay not in my power to give them any extra food, and the lime juice was also limited. Indeed, so scanty was this, that I could only give it in the most sparing quantity, and could not continue its administration sufficiently long to be permanently beneficial—merely allaying the more urgent scorbutic symptoms—so as to allow me to extend its benefits to other sufferers. Even with a more liberal supply, it would have been next to an impossibility to have eradicated the disease, or to establish permanent good results, the same causes for its production being still present; neither could I give sufficient support to the system when improvement did take place, and they began to rally from their state of languor and prostration.

As these were the remedial agents then most requisite, our losses by death were entirely owing to the want of them. The second death occurred on the 11th—that of John Ames, from dropsy supervening on an affection of the heart of only nine days duration, in a man of scorbutic habit; and the third, and last, on the following day, was that of John Kerr, gunner's mate, who had been long suffering from scurvy and

debility, on which general dropsy supervened. This man was so debilitated when first brought before me, that he could not stand without support—a common circumstance with many, on slight attacks of illness. Dropsical diseases were at this time of very frequent occurrence, owing to the vitiated state of the blood, and the readiness with which it was poured out into the cavities on the slightest cause. We had thus several acts of mournful duty to perform; all these deaths having taken place in the course of one week. Had not the party about to start from the ship been recruited, there was but little doubt that the more debilitated must soon have shared the fate of their shipmates—so ill adapted were they to resist any form of disease.

The intense coldness of the air was extremely trying to the invalids, when recovery had so far progressed as to enable them to take a little exercise in the open air; particularly to those suffering from any form of pulmonary disease, where the transition of temperature from the lower to the upper deck, by merely walking up a few steps of a ladder, at times exceeded one hundred degrees. It, therefore, became necessary to guard as much as possible against its evil effects, by wearing a fold of the netted woollen comforter over the mouth, in the form of a respirator. I had one of Jeffrey's respirators in use, and tested its efficacy in the coldest temperatures. I found that it considerably modified the

irritating effects of the inhalation of cold air, until the accumulation of ice obstructed it. I can, therefore, strongly recommend it, as it enabled me to allow invalids in the coldest weather, such an amount of exercise as I deemed it necessary for them to take.

From this date until the 13th, all was bustle and preparation amongst us. The travellers, overjoyed at the change which had taken place in their prospects, were in high spirits, and now gladly looked forward to the day of their departure. On the 15th of April, therefore, at 3 P.M., the party started, under the command of Lieutenant Cresswell, consisting of Mr. Wynniatt, (Mate), Mr. Piers, (Assistant-Surgeon), the Interpreter, and twenty-four seamen and marines, with three sledges and provisions for twenty-four days. They were accompanied by a fatigue party from the ship for four days to assist them over the rough ice; and they left us with three hearty cheers, as strong and loud as twenty weak men could give them, and with every wish for their safety. Mr. Paine and I accompanied them for some distance, until a snow-storm compelled our return.

The appearance of the party, as the sledges formed in line, wending their way over the ice, at times enveloped in thick snow-drift that swept wildly around them was remarkably wild and forlorn, and they thus commenced their journey on a cold and cheerless evening, with the prospect of an icy bed before them. They started in high spirits, and with very different feelings,

from what they would have experienced with the prospect before them of the hazardous Cape Spencer journey; for they had left a ship where privation had been long and severely felt, for one where plenty was to be found. A knowledge of this had a most exhilarating influence, and antagonized the effects of such laborious travelling. I am of opinion, that, had the original plan been carried out, they could not have started the sledges from the ship with forty-two days provisions as intended; and if even assisted in doing so, that few, if any, would have lived to tell the tale of their heroism and suffering. Although it was not our lot to accompany them, we heartily rejoiced that their condition would soon undergo a change, and that the carrying out such a desperate and hopeless plan of escape, had been so Providentially averted. Four officers were detained on board, one of whom was confined to bed and unable to accompany the party as originally intended—Mr. Sainsbury, (Mate), then suffering from a pulmonary affection, whose removal at that early period would have been attended with danger. Another, the senior Lieutenant, was detained to take a party of invalids across at a later period of the season. Our supplies of fresh meat had been for some time exhausted, and although a few of us on board vigorously continued the hunting, our success was very trifling, as the Deer had almost entirely abandoned our neighbourhood. We succeeded in killing two—a result which formed a remarkable

contrast, with the produce of our sport the previous year, when the animals were more abundant than we had before known them, and our success exceeded that of any former period.'

No addition, whatever, had been made to the scale of diet, before Captain M'Clure started for Melville Island; the men complained still more of growing weakness and debility, and several cases of scurvy were added to the sick list; as I had not yet the power to benefit them, by giving the nourishment they required, which was then so essential to their recovery; but such a state of things was fortunately destined to be of short continuance. It was at this time lamentable to witness the pale, haggard aspect of our men, stalking about the decks like living spectres, cold and hungry, for daylight now fully revealed all their imperfections: so sadly altered were they, from what they had once been.

On the 19th of May, a party of travellers was observed approaching the ship, which proved to be that of Captain M'Clure, returning from Melville Island, after an absence of six weeks. The arrival was gladly hailed, for it was generally considered that the communication with a Senior officer would be attended with good results, that some change, at least, for the better, must take place in our affairs, and that real and substantial relief was, at length, about to be afforded us. We then learned that our party had reached their destination in safety on the 2nd of May,

after little more than sixteen days travelling. Some were obliged to be carried on the sledges, several were incapacitated from dragging, and all arrived in a state of great exhaustion and debility—so much so, that to lighten the sledges they threw away their spare clothing on the ice—and nearly all were placed on the sick list. Captain Kellett seeing the sad state in which they had arrived, ordered the Medical Officers to hold a survey, and give a report on their condition. It was generally remarked, how vacant was the stare and how fatuous and inexpressive their countenances when contrasted with healthy men, by those unaccustomed to view such objects as the 'Investigators' then presented; thus affording truthful evidence of the shock which the intellectual faculties had sustained, and the mental prostration that ensued after so long a period of complete isolation from the world under such trying circumstances.

They were all found in a state of greater or less debility, and the scorbutic taint universally existing in various degrees of aggravation. The consequence was, that Captain Kellett at once determined, very judiciously, to direct a Survey to be held on the men left in the 'Investigator', and for this purpose dispatched the Surgeon of the 'Resolute,' on the return of Captain M'Clure, to co-operate with myself in doing so. Captain Kellett had been imperfectly informed of the health of these men. In the despatches brought to us by Lieutenant Pim, (since published in the Parliamentary

Blue Book) he desired Captain M'Clure to call on me for a report of the actual state of health of the crew; but no intimation whatever was made to me on the subject—Captain M'Clure having reserved that duty for himself.

It had become a doubtful question with Captain Kellett, on whom the responsibility devolved, how far it would be prudent, from the state in which he saw our men arrive, to allow us to remain longer in the ship, with so much risk to the health and lives of all. He had had already a specimen of our *diplomatic skill* in Behring's Strait, in 1850—the remembrance of which, may, doubtless, have influenced him, in receiving Captain M'Clure's verbal report of our state of health and efficiency with great caution, as he had ample reason to distrust us. In the absence, therefore, of an official report from me, which he had called for, and on which he would have acted, he ordered and directed the survey to be held, that on the report, he might be justified, or otherwise, in ordering the abandonment of the ship. He, at the same time, (at the request of Captain M'Clure), sent orders, that if the latter could procure twenty volunteers, (officers and men)—the number he considered necessary to work the ship—whose state of health was approved of by the Medical Officers, he would allow them to remain by the ship, and await the chances the coming season might afford us, of effecting our liberation, or, otherwise: and these orders were ac-

cordingly read on the quarter-deck, on Sunday the 22nd, the day following their arrival. I could not but observe how earnestly the men deliberated over the matter in groups of two and three for the remainder of the day. On the next day the Survey took place, and the result left no doubt on our minds upon the question of efficiency, as, I regret to say, there were none of them found free from the scorbutic taint, which was in various stages of development. With a view of conveying a more truthful idea of their state, a few of the actual appearances were noted down in the report; this was forwarded, and fully proved the sad state to which our brave crew had been reduced. In addition to these symptoms, all complained of loss of flesh and strength, as well as of greatly increasing weakness and debility, on making slight exertion. They were, at the same time, asked if they would volunteer for further service in the ship, under the circumstances I have narrated above; but there were only four of the men who were found willing to do so; however, the few officers remaining, four, with one warrant officer, at once volunteered for further service, as an example to the men—but all in vain. The volunteers thus forthcoming, fell far short of the estimated number considered necessary to work the ship, and the question of remaining longer in her was finally settled.

This did not entail the necessity of a medical report, to justify the adoption of such a measure as

the abandonment of the ship; nevertheless, in obedience to the order of the Senior officer, which had been received, a report was drawn up after mature deliberation, was fully expressive of the unanimity of opinion we (the Medical officers,) entertained of the condition of the crew, after their long period of service in the Polar Sea.

It was, therefore, decided that the 'Investigator' must be abandoned, and the ship's company were summoned on deck to hear the official announcement. It appeared to be received with evident satisfaction by all. The men were ordered to be placed on full allowance of provisions—and thus ended our days of suffering, privation, and hunger. I then represented the necessity of giving them as liberal a proportion of anti-scorbutic food, as I thought judicious, under the circumstances, in the articles of lime juice and vegetables; this was attended to—and from this date they were but little restricted in anything except spirits. The effect of this sudden change of diet was remarkable, although nothing more, perhaps, than what might, under the circumstances, have been expected from men, who, for upwards of twenty months, had never known what it was to have a good meal, but, who, during all this time, day after day, had suffered from the pangs of that hunger, which they could not appease. They ate, or rather devoured their food ravenously at first, on being suddenly transferred from want and semi-starvation to the enjoyment of

food in abundance, and this produced much functional derangement of stomach—long unused to a sense of repletion. The consequence was, the biliary and other secretions became much disordered, sickness, pain at stomach, and other affections, supervened with complete loss of appetite, and a general feeling of languor and prostration, which, in a greater or less degree, affected us all. Many required treatment, and a few were so unwell, as to render it necessary to place them on the sick list. We immediately commenced forming a depôt of stores and provisions on the beach, embracing the greater part of everything the ship contained, that could aid or succour any unfortunate travellers likely to be cast on these desolate shores, and in the probability there existed of the ship being eventually destroyed by the power of that element, with which she had hitherto so often contended successfully.

I cannot conclude these remarks without noticing the noble spirit and patriotic feeling that had animated the Ship's company in the almost super-human exertions, hitherto made under the most severe and trying circumstances—such as it has fallen to the lot of but few to encounter. I knew what they had been exposed to, and what they had endured, I had witnessed their courage, and daring in many eventful scenes; had seen their manly forms gradually shrink under hunger and cold, and had marked their patience and fortitude when suffering from disease; and certain

do I feel that the records of their deeds, ought to form one of the brightest pages in the history of our country.

On the evening of the 24th of May, the Surgeon of the 'Resolute' and party, left on their return. Mr. Sainsbury was sent with them, he having rallied considerably: I considered the journey could be performed by him with the less danger, as they intended to travel by easy stages. I accompanied them for some distance on their way.

All work having been completed towards the end of May, and the greater part of the provisions and stores having been placed in safety on the beach, a cairn was erected on a neighbouring hill, in which was deposited a record of our sojourn in the Bay, and of our abandonment of the ship. On the 30th, we performed the last sad duty to our departed shipmates, by erecting a tablet to their memory, to tell how nobly they fell in discharging their duty to their country. We could not view the three solitary mounds on the beach, without feelings of poignant sorrow, that these brave fellows had not been spared to accompany us.

On the 2nd of June, the sledges were packed, and everything got in readiness to start at an hour's notice. As each officer and man was limited to a certain weight, suited to the strength of their respective parties, we were only enabled to take with us a change of clothing, and a few small things—everything

else was left in the ship. The long looked for, and anxiously expected day, the 3rd of June, at length came. The weather was cloudy and threatening in the morning, presenting nothing whatever cheering in its aspect; this the appearance of snow and a dense, heavy atmosphere, tended in no degree to improve. The ship was cleaned throughout from stem to stern, and everything left in perfect order, so as to be immediately available for any party whom adverse fate might compel to seek for succour in the Bay of Mercy. At 5.30 P.M., all being mustered at divisions on deck, Captain M'Clure, the Senior Lieutenant, and myself inspected the ship for the last time; a few words, not complimentary, were addressed to the men, and all were piped to take their places at their respective sledges, then on the ice.

The white ensign of St. George was hoisted at the peak, and the pendant at the main, which flaunted gaily in the breeze as we stepped over the side of the ship that had so long been our home, never to visit her again. The carpenters, who remained to batten down the hatches and secure the gangways, were the last, to leave—then the 'Investigator' was finally abandoned to her fate. As we stood on the ice, and took a last view of our fine old ship, we could not but do so with a grateful recollection, considering how far she had borne us, through what dangers she had carried us, and the safe asylum she had so long afforded us. But while we entertained those

feelings, which sailors are prone to indulge in for their vessels, we felt that the time had arrived when it became imperative to abandon her, and consequently we could feel no regret at leaving a ship where every form of privation had been so long endured.

The sledges having been drawn up in order on the ice, were commanded as follows:

1st	sledge,	Captain M'Clure	6 men.
2nd	„	Lieut. Haswell and Mr. Paine,	8 „
3rd	„	Mr. Court	6 „
4th	„	Dr. Armstrong	8 „

All, of course, were under the orders of Captain M'Clure, who pioneered the way, by walking a-head. We (the officers) felt it our duty, rather than avail ourselves of our privilege of merely directing the sledges, to bestow all our strength on the drag ropes; accordingly we took our places with the men, as some of them were in a very weak state; at the same time guiding each sledge, and attending to all the minor duties incidental to its charge. At 6.10 P.M., therefore, with a fresh breeze from the south-west having set sail, we started in silence, turned our backs on the 'Investigator' for ever, and made our first step on the long wished for homeward journey.

The weight of the sledges was from 1200 to 1400 lbs. according to the strength of the party, having provisions for eighteen days. We followed the plan

previously adopted of travelling and sleeping six hours alternately, as our strength did not admit of our working for a longer period. We encamped the first night on the ice off Point Back, our invalids having felt much the effects of this—the first journey. Until the 5th, we proceeded along the northern coast of Banks Land, as far as Cape Hamilton, from whence we shaped a course across the Strait for the nearest point of Melville Island (Cape Hay). We encountered for the first few marches, tremendous packed ice; our progress was therefore very slow. As we were unable to advance singly with our sledges, two crews were given to each, and in this way we dragged them by degrees—on some occasions not making more than a mile in the six hours. So worn out were we at times, that we were obliged to encamp after two or three hours of this severe labour.

It is impossible to convey a truthful idea of the labour of dragging a sledge over rough ice; at times it can only be moved a few feet, until it be again arrested by a rugged or almost precipitous wall of rough, broken up floe ice; or becomes deeply immersed in intervening, soft snow, requiring the aid of spade and pickaxe for its extraction. Notwithstanding all the care we could bestow, accidents frequently occurred to these vehicles, and we were obliged to encamp until they were repaired. To add to our difficulties, several of the men had become afflicted with snow blindness, but still dragging blind-folded, were con-

stantly slipping and falling in the drag ropes. Others were so exhausted that they had either to walk or be carried; this threw additional labour on the remainder, but we still toiled wearily on. We all suffered much from thirst—a feeling that, in warm climates is trifling when compared with the insatiable craving for water, which Arctic travellers experience. It is rendered still more urgent by severe labour and exhaustion—always preceding the latter, and inseparable from its presence. Snow was eaten with avidity—but only to increase the evil, and excoriate the mouth; to obviate this, we kept it in our hands until it became consolidated into a ball, and then sucked it by degrees. As the thaw advanced, and icicles began to form, it was a great relief to us, for we would carry them in our pockets without thawing, and refresh ourselves as we advanced. Although it was then the height of summer, the temperature in the night journeys frequently froze the moccasins or boots to our feet; but during the sleeping hours, they were thawed and dried on exposure to the sun, by suspending them outside the tent.

On the 12th, we reached Melville Island, encamped under the bold and lofty Cape Hay, about twenty yards from the shore, and got a supply of fresh water from a stream running down its front. So welcome was it, that the tent was no sooner pitched than we all eagerly ran to drink. Our travelling for the

next few days was over young ice; we made good progress, and on the 15th, we encamped off the entrance of Winter Harbour. The thaw had then progressed so rapidly that we had sometimes difficulty in finding a bed of snow on which to pitch the tent; and after we did so, and had lain on it for some time, we found ourselves in a pool of water; but fortunately with the intervention of a tarpaulin. We suffered, however, severely from the thaw, and our constant immersion in pools, from twelve to eighteen inches deep, so benumbed the feet and legs, that we were occasionally frost-bitten; and as young ice formed nightly on them, its sharp spicula cut up our canvas-boots very much. The travelling was beginning to tell on us very sensibly—after a march we found our feet and legs swollen, pains and stiffness about the joints, severe spasms in chest from the effects of the drag-rope, as well as suffered a degree of languor and exhaustion, which completely prostrated us, and forcibly intimated how ill adapted we were for a much longer continuance of the journey.

On the 17th, to our great joy, we encamped within sight of Dealy Island, and could faintly discern the outline of the ships. At 2 P.M., after four hours rest, we commenced our last march, having previously washed our faces in a pool, to add somewhat to the respectability of our appearance—for we were truly a haggard looking, toil-worn party. Nothing was talked of for the remainder of the journey, but the

pleasure we should experience on reaching the ships, to which we looked forward with delightful anticipations. We were in hopes of accomplishing it in a few hours, when we should be again amongst fellow countrymen, see new faces, hear strange voices, and become once more connected with the civilized world. The march was a long and trying one; as we advanced all eyes were eagerly bent in the direction of the ships, whose dark outline was then pretty distinct. We had reached within about two miles, when we were met by several officers of the 'Resolute' and 'Intrepid,' from whom we received a cordial welcome. They had with great kindness and consideration brought us some refreshment. We were joined, in a few minutes afterwards, by all our old shipmates, who were able to come out, and they ran eagerly to meet us. Salutations and greetings, warm and cordial were exchanged; shipmates and messmates, who had only so very recently parted, again met as if years of absence had intervened; and the hearty greeting, the word of welcome, and the joyous laugh succeeded each other, as they tackled to our sledges, which they bore rapidly along. I should not have believed such an alteration could have taken place in the appearance of our men since they left us only two months before; some of them I did not at first recognize, so stout and fat had they become, contrasting wonderfully with the gaunt, haggard appearance of former days. Their faces now glowed with a cheerful smile, declaring how heartily they welcomed

us to a harbour of safety and succour. Our numbers increased as we advanced—all the officers and men of both ships having come out to meet us. The ships were gaily decorated in honour of our arrival, the remnant of their crews were drawn up on the ice to receive us, with Captain Kellett at their head; and those who had previously joined us, fell out of the sledge, and received us with three loud and hearty British cheers—a few steps brought us alongside the 'Resolute,' and we at length experienced the pleasant realization of all our hopes and wishes.

A distribution of our crew then took place between the two ships—the majority of the officers with myself, and twenty-two men were sent to the 'Intrepid.' Captain M'Clure, and the remainder were retained in the 'Resolute.' We found that Captain Kellett had kindly made every preparation for our reception, on board the former ship, compatible with her accommodation and the means at his disposal, by erecting temporary cabins in the steerage outside the Gun-room. The officers had provided everything that could possibly contribute to our comfort, and received us in the kindest manner; they had prepared us a most luxuriant repast, such as we had not known for many a long day; and I need not say how much the hungry 'Investigators' did justice to the fare, as we felt the days of adversity had at length come to an end.

CHAPTER XXIII.

The 'Resolute'—Intelligence received—Improvement in Health —Sporting Parties—State of the Ice—Drifted off the Land— Release of the Ships—Cruising—Ships beset in young Ice —Drifting—Winter Quarters—Our Disappointment—Death of Mr. Sainsbury — His Funeral—The Winter—The Year 1854—Commencement of the Fifth Year of Arctic Service— Departure of our Crew to Beechey Island—Mode of Travelling and Incidents of the Journey—Ice Travelling in the Spring—Arrival on Board H.M.S 'North Star'—Death of Thomas Morgan — Abandonment of 'Resolute' and 'Intrepid'—Intelligence received of 'Enterprise'—A Visit to the 'Investigator'—State in which she was found— Inferences — Incidents — Abandonment of 'Assistance' and 'Pioneer' — Arrivals — Departure from Beechey Island— Incidents—Arrival in England.

With our arrival on board the 'Resolute' I consider the Narrative of the 'Investigator's' voyage ceases; although I have before me copious notes of our daily proceedings until we reached England; their publication is not within the limits of this work. Indeed, I have neither wish nor inclination

to narrate them. It was our lot to be detained for another year in the ice, and it would ill become me to comment on, or criticise the proceedings which led to the detention of the ships, and their subsequent abandonment. Though I entertained then, as I do now, but one opinion on the subject, I can only adopt the language of gratitude towards those amongst whom I was a refugee, and who were the means of rescuing us from starvation and death. I shall, therefore, merely allude to those proceedings in connection with our own crew, and in elucidation of the events which subsequently befel us, on our homeward journey.

On arriving at Melville Island, we heard that Lieutenant Cresswell and Mr. Wynniatt had proceeded as volunteers in company with a party of invalids in May, to the 'North Star,' at Beechey Island, in the hope of an early opportunity occurring to forward them on to England that season. That opportunity did occur, and these officers arrived in England in October, 1853, in H.M.S. 'Phœnix,' with the first intelligence of our Discovery of the North-west Passage, and of our safety.

We improved rapidly in health and strength, the change could be daily observed, as we gradually lost the haggard, care-worn expression of former days, for one of comparative cheerfulness and health. We were then anxious to make ourselves useful—a life of inactivity, being but ill-suited to the hardy 'Investi-

gators'; and as it was then the height of the shooting season, and game abundant, we volunteered our services to Captain Kellett, to keep up the supply of fresh meat, in lieu of that which we were consuming, which he gladly accepted.

We were accordingly dispatched with a few men in different directions, having a tent and provisions, for eight or ten days at a time; and were very successful in our sport. I met with many incidents and adventures, too numerous for mention here. On one of these occasions, Lieutenant Pim and myself shot in the course of a week, one Musk Ox, nine Reindeer, ten Hares, eighteen Brent Geese, thirteen Ducks, and sixteen Ptarmigan—evidence of the large amount of game to be met with on Melville Island. It may be taken as an average of what was obtained by other parties. Several were in localities where Musk Oxen abounded, and few Reindeer; many of the former were consequently shot. By the zealous exertions of the officers and men of both ships, upwards of 10,000 lbs of fresh meat were obtained; the issue of which at proper intervals, had a most salutary effect.

We continued to watch the state of the ice with intense anxiety, as we felt quite certain our days of imprisonment in it were drawing to a close, and that we should reach England in 1853. The thaw continued to progress very satisfactorily; it was not, however, until the morning of the 18th of August, during the prevalence of a north-west gale, that the

ice was set off-shore, which gradually broke up around us, and towards the close of the day, the ships were under sail in a fine expanse of open water. We continued working along the pack edge at times, occasionally secured to the floe ice off Point Griffiths, until the 10th, when the ships were beset in young ice, off Byam Martin Island, in latitude 74° 49′ 35″ N., longitude, 105° 42′ W. We continued drifting until early in November, the ships becoming finally fixed about twenty-eight miles to the south-west of Cape Cockburn, in latitude 70° 41′, longitude 101° 22′ W., which were our winter quarters during 1853-54.

It is needless for me to say what was the extreme bitterness of our disappointment after the sanguine hopes we had so reasonably indulged in; but the 'Investigator's' bore themselves worthily, under their misfortunes. There was one, however, on whom it exercised a different effect (Mr. Sainsbury) he, poor fellow, long sustained by the hope of reaching England at the close of the season, when fully aware that we were doomed to spend another winter in the ice, drooped in spirits, his disease made rapid progress, and on the 14th, to our great regret, he was released from his long suffering. He had rallied considerably in July and August, and had we then got to England, his life would, in all human probability, have been prolonged for a little time, but the seeds of his disease (Consumption) were too deeply seated to be eradicated, or to afford any hope of permanent recovery. On

the 16th, we bore him to his cold and watery grave; part of the impressive service of our church was read on board the 'Resolute' by Captain Kellett, when the body wrapped in canvass as

"No useless coffin enclosed his breast,"

was placed on a sledge, covered with the Union Jack, over which the ensign floated half mast high. This was drawn by six petty officers of the 'Investigator', and followed by all the officers and men of both ships to a smooth piece of ice about 200 yards distant, where a square hole was cut down to the icy sea to receive him. The sledge was drawn up alongside, when the remainder of the burial service was read. All grouped around, gazing in melancholy silence on the touching scene before us; and when the words were pronounced 'we, therefore, commit his body to the deep,' it glided slowly from the sledge, and was silently engulphed in the watery grave beneath the ice on which we stood. The bleak and dreary character of the day was quite in keeping with the occasion—a cold, biting north-west wind, and a temperature of 57° below freezing point, added in no small degree to its solemnity and gloom.

This, our fourth winter in the ice, was passed much in the same way as all the others had been; but our great distance from the nearest land being twenty-eight miles, we were unable to make it in any

way available for recreation or hunting; we consequently participated in a full degree in all the dreariness and solitude inseparable from wintering in the pack. As our numbers rendered us a heavy tax on the resources of the ships, there was a reduction made in the allowance of provisions at the beginning of winter; but we thought little of it, when compared with our privations of former days.

With the advent of 1854, we commenced our fifth year of Arctic service. The winter, up to this period, had been one of intense cold, but less so than that of the previous year in the Bay of Mercy, and we were likewise in a much better condition for resisting its effects. Captain Kellett determined, with a view of husbanding the resources of his own ship, to detach the 'Investigators' early in the spring to H.M.S. 'North Star,' at Beechey Island, where a large depôt of provisions was formed; we were thus destined for another march over the ice. Early in April, we received orders for travelling in three divisions: the first, consisting of two sledges and twenty men, with Lieutenant Haswell and Mr. Paine, were dispatched on the 10th; the second, with Lieutenant Pim and myself, with the same number of men, and a few invalids from the ships, were sent on the 11th; the third, with Captain M'Clure and the remainder of our officers and men, followed us two days subsequently.

Our three parties were thus within a day's march

so that we were able to afford mutual assistance, if necessary, by waiting for or advancing on each other. Our journey was a severe and trying one, as Arctic travelling at that season of the year ever is, from the lowness of the temperature. On the morning of our departure, it was 35 below zero, and alternated several degrees above and below that during the journey, the details of which it is not my intention at present to narrate. Our route lay over the ice, between Garrett Island and the coast of Bathurst and Cornwallis Land, some of which was heavy and packed, but much of it was of the previous year's formation, evidencing that a large body of open water existed along the coast at the close of the season. We had several adventures with Bears and Wolves, and one of the former was killed. Our men held out well: a few of the weaker suffered occasionally from exhaustion—one poor fellow, whose intellect had been long affected, was then in a state of complete imbecility, and a source of much trouble and anxiety, he was, on one occasion, nearly becoming the prey of a hungry Bear, but was fortunately rescued.

The cold was intense: our garments were always frozen after a march—stockings and moccasins adhering so firmly to each other, from the condensation of vapour, that we were often obliged to cut them off our feet, which might be said to be encased in ice; requiring us to keep in constant motion to prevent

being frost-bitten. The mits were in the same condition, together with other portions of our dress; the only means for thawing which, was by taking them into our blanket bags when we went to rest, and imparting to them the warmth of our own bodies. The consequence was, that the product of the thaw, (water), froze on our bags, which ultimately became hard and stiff from the accumulation of ice. Everything was either half-thawed, frozen, or covered with hoar-frost, not excepting eyelids, beard, and face, with frost-bites constantly occurring, from the exposure of the hands in the manipulation necessary for putting on one's garments, or taking them off. We were frequently frost-bitten when asleep, or when in the act of dispatching our hasty meal, while sitting up in the tent, enveloped in our blankets. Such are a few of the incidents of Arctic travelling, in the performance of which no service more thoroughly tests man's powers of endurance, both morally and physically. No fluid is so acceptable to a wearied traveller in the North as tea; after a day's journey, its effects are peculiarly refreshing and exhilarating. Cocoa, from its being more nutritious and sustaining, is well adapted for the morning meal, and, with some frozen bacon, generally constitutes the breakfast; the remainder of the day's allowance of food is taken at the end of the march.

On the 24th of April, we reached the 'North Star,' where we found the first division had arrived

the day before; and Captain M'Clure followed on the 27th, so that we were once more assembled together in the same ship. The effects of the journey had been more or less felt by us all, but we were recruited by a few days' rest. During our sojourn at Beechey Island, we lost one of our men, Thomas Morgan, who, after a very prolonged illness, died from the effects of his previous sufferings in the 'Investigator.' He was a most excellent man, and his loss was much and universally deplored. It was the fifth and last death that occurred.

We remained at Beechey Island—celebrated as the first winter quarters of Sir John Franklin's Expedition—and resorted to various expedients to kill time during this long period of uninterrupted daylight. Excursions to the neighbouring lands, sauntering over the island, ever in search of the slightest trace of the missing Expedition, and shooting Dorekies (*Uria Grylle*), which were very numerous in the ice-cracks, constituted the principal occupations of the summer. In the mean time, Sir Edward Belcher, the Senior Officer of the Expedition, ordered the abandonment of the 'Resolute' and 'Intrepid;' and the officers and crews of those ships joined us on the 28th of May. Captain Kellett had, at an early period of the spring, detached two parties from the 'Resolute:' one to explore the Strait of Prince of Wales, in the hope of obtaining some intelligence of Captain Col-

linson in the 'Enterprize;' the other proceeded to the 'Investigator,' in the Bay of Mercy, where she was still found. On the 12th of July, they arrived on board the 'North Star.'

By the former, we received intelligence of our Consort, and from the course which Captain Collinson intended to pursue by the records he left at Princess Royal Islands, we felt but little apprehension for his ultimate safety, as his line of retreat along the coast of America, was open to him every summer; and failing his ability to extricate his ship, his resources would have enabled him to reach some of the Hudson's Bay Company's trading posts. Mr. Krabbè (Master of the 'Intrepid') was the officer selected to go to the Bay of Mercy; from whose report* I extract the following particulars of the state in which he found the 'Investigator,' twelve months after we abandoned her.

"The tattered remains of the ensign and pendant were still flying, and an accumulation of drift on the northern side of the ship, sufficient to enable me to walk in over her gunwale; there was a good deal on her decks, but not to prevent our easily getting at the fore-hatchway. The ships head was N. 30 W. true, her cable hanging slack under her bow. She was heeled about 10° to starboard and slightly by the

* *Vide* Parliamentary "Blue Book" on Polar Expeditions, 1855.

head. There were no signs of pressure about her, although the oakum was hanging very loosely out of most of the seams. She was S. 12 E. 1400 yards from the cairn, and 426 yards from the nearest point of beach, her stern being in eleven fathoms of water. On going below, I found all things in good order, and the lower deck pretty free from frost; but overhead, on orlop decks, there were great accumulations. On examining the holds, I found she had leaked during the preceding summer, so much that she was now full to the orlop beams forward, and within ten inches of them abaft, with solid ice." Speaking of the state of the ice, this officer again says. "Both on entering and leaving the bay, I paid marked attention to the state of the ice in it, and *am confident that there was no water made inside a line from Point Providence to Point Back during* 1853, but there was open water during that season along the whole line, and which finally met and arrested pieces from the pack around the neighbourhood of Cape Hamilton."

The inferences to be deduced from this report are, that the 'Investigator' moved a little in the summer of 1853; that the ice never broke up in the Bay, and that we consequently should have failed to liberate her had we remained; and that she will, from the accumulation of ice and water, ultimately sink at her anchors, and find repose at, or near where we left her. We had, therefore, every reason to congratulate ourselves that we abandoned her at the period we did.

Towards the middle of August, the 'North Star' was liberated from her winter quarters, and we remained at the floe edge, pending the orders of Sir Edward Belcher, and in hourly expectation of the arrival of a ship from England. In the meantime, Sir Edward determined to abandon his own ship 'Assistance,' and her tender 'Pioneer,' and on the 25th, the crews of H.M. Ships 'Investigator,' 'Resolute,' 'Intrepid,' Assistance and 'Pioneer,' were collected on board the 'North Star,' and we cast off from the floe on our homeward voyage. We had scarcely done so, when the outline of a ship could be faintly observed through the haze, and we soon hailed with emotion the arrival of H.M. Ships 'Phœnix' and 'Talbot' from England. We received by them the first letters we had had for a period of nearly five years, which brought joy to some, and deep mourning to others. The crews of the abandoned ships were distributed between the vessels—the 'Investigator's' remained on board the 'North Star,' and we immediately proceeded on our course. After touching at Navy Board inlet, in Lancaster Sound, and at Lievly, on the coast of Greenland, we landed off Ramsgate on the 6th of October, 1854, after an absence of four years and ten months.

A few days subsequently, Captain Mc Clure, the officers and crew, were tried by Court-Martial on board H.M.S. 'Waterloo,' at Sheerness, for the abandonment of the ship; and after due investi-

gation were honourably acquitted. The President of the Court, on the termination of the trial, was pleased to pass a high encomium on our conduct; no less for the hardships and privations we had undergone, than for the good service we had done our country, by the important Discovery we had made—THE NORTH-WEST PASSAGE.

APPENDIX.

Abstract of Meteorological Journal kept on board H.M.S. 'Investigator,' from January, 1850, to April, 1853.

	Marine Barometer.			Aneroid.			Sympresometer.			Temperature of Air.			Temperature of Sea-Water			Mean Force of Wind.	Prevailing Winds.
	Max.	Min.	Mean.	Max.	Min.	Mean.	Max.	Min.	Mean.	Max.	Min.	Mean.	Max.	Min.	Mean.		
1850.																	
JANUARY										58	46	53·2	5	50	53·3	..	S.W.W.
FEBRUARY . . .	30·017	29·900	30·017	..	..	..	..	..	..	85	51	67 6	85	54	67·8	..	E. & N.E.
MARCH	29·961	·530	29·966	..	..	..	..	..	..	85	58	77·6	83	65	78·7	..	S.E. & S.W.
APRIL	·651	·280	·651	..	..	..	..	..	..	70	41	50·4	68	40	49·6	..	Westerly.
MAY	·871	·480	·871	..	..	..	..	..	..	78	41	64·2	76	42	63·6	..	N.W. & S.W.
JUNE	·972	·820	·972	..	..	..	..	..	..	85	74	79 2	85	74	77.7	..	S.E. & N.E.
JULY	30·430	·460	30·065	..	..	..	..	..	..	83	39	58·4	81	38	56·6	4·7	Easterly.
AUGUST	·060	·390	29·751	30·800	30·200	30·275	30·580	29·970	30·220	50	27	36·5	45	28	33·6	3·5	N.E.
SEPTEMBER . . .	·650	·470	·809	31·460	·300	·362	31·210	·780	·490	46	—1	20·2	37	21	29·9	3·6	Variable.
OCTOBER	·180	·380	·861	30·850	·200	·415	30·900	·850	·375	24	—23	0·2	Frozen.	Frozen.	Frozen	2·0	N.E.
NOVEMBER . . .	·270	·160	·739	31·080	·000	·300	·800	·620	·210	7	—32	—10·2	..	..	..	3·1	Variable.
DECEMBER . . .	·560	·480	·978	·400	·150	·517	31·310	30·020	·665	—4	—40	—23·4	..	..	..	2·5	W. & S.W.
Mean from August	30·650	29·160	29·828	31.460	30·000	30·522	31·310	29·620	30·382	50	—40	—4·66	45	28	31·7	3·0	
1851.																	
JANNARY	30.570	29·400	29·885	31·460	30·250	30·749	31·000	29·800	30·391	—15	—51	—32·5	Frozen.	Frozen.	Frozen.	2·72	Northerly & N.W.
FEBRUARY. . . .	·630	·030	·958	·500	29·800	·823	·200	·450	·456	—9	—51	—37·67	..	..	..	2·1	Westerly.
MARCH	·720	·338	·946	·580	30·170	·859	·400	·700	·405	—5	—51	—28·82	..	..	..	2·3	N.W., Westerly.
APRIL	·610	·410	30·037	·500	·260	·940	·230	·920	·531	+38	—32	—4·78	..	..	..	3·08	Northerly.
MAY	·600	·560	·023	·500	·450	·931	·250	·950	·534	+47	—5	+18·89	..	..	..	2·21	N.W. & E.
JUNE	·150	·470	29·837	·050	·350	·737	30·600	·900	·309	+53	+27	+36·08	..	..	..	3·51	Southerly.
JULY	·090	·450	·756	·005	·320	·661	·580	·850	·210	+52	+32	+37·54	36	31	32·3	3·0	N.E. & Variable.
AUGUST	·400	·390	·865	·251	·300	·774	·800	·800	·295	+52	+21	+37·56	49	28	32·5	2·8	S.W. & Variable.
SEPTEMBER . . .	·270	·450	·876	·170	·350	·795	·730	·780	·295	+43	+1	+24·62	Frozen.	Frozen	Frozen.	3·1	Variable.
OCTOBER	·260	·300	·877	·150	·200	·793	·610	·560	·226	+26	—22	+3·3	..	..	..	1·93	North, Westerly.
NOVEMBER . . .	·750	·630	30·097	·500	·550	·906	31·030	·890	·263	+11	—40	—15·2	..	..	..	1·76	N.W. & S.W.
DECEMBER . . .	·810	·491	·046	·500	·420	·888	·180	·620	·245	+11	—44	—20 0	..	..	..	3·54	S.W.
Annual Mean . .	30·750	29·030	29·934	31·580	29·800	30·821	31·400	29·400	30·863	+53	—51	+1·58	36	28	32·4	2·67	

Abstract of Meteorological Journal—(Continued.)

	Marine Barometer.			Anereid.			Sympresometer.			Temperature of Air.			Temperature of Sea-Water.			Mean Force of Wind.	Prevailing Winds.
	Max.	Min.	Mean.	Max.	Min.	Mean.	Max.	Min.	Mean.	Max.	Min.	Mean.	Max.	Min.	Mean.		
1852.																	
JANUARY	30·600	29·280	29·841	31·500	30·240	30·755	30·870	29·400	30·032	+8	—51	—27·32	Frozen.	Frozen.	Frozen.	3·42	S.W.
FEBRUARY . . .	31·000	·070	·777	·500	·000	·677	31·000	·140	29 942	—1	—47	—25·8	..	..	..	3·1	N.W. & Variable.
MARCH	·000	·460	30·080	·500	·350	31·035	·000	·520	30·225	+5	—52	—28·42	..	..	..	2·0	Westerly, Var'ble.
APRIL	30·430	·520	·064	·400	·490	·028	30·520	·580	·150	+31	—38	—1·38	..	..	..	2·48	Northerly.
MAY	·250	·600	29·987	·230	·550	30·958	·230	·700	·048	+37	—25	+10·24	..	..	..	2·56	Variable.
JUNE	·100	·430	·758	·100	·400	·733	·200	·420	29·971	+51	+11	+31·50	..	..	..	3·15	Westerly & N.W.
JULY	·000	·370	·749	·000	·330	·701	29·980	·300	·707	+52	+30	+36·72	..	..	..	2·95	N.W.
AUGUST	·170	·400	·816	·150	·380	·795	30·200	·320	·717	+52	+12	+33·25	37	28	30·7	2·90	Westerly, N.W.
SEPTEMBER . . .	·100	·070	·785	·070	·050	·768	·100	28·000	·742	+38	—4	+20·08	33	28	29·7	3·64	Westerly.
OCTOBER.	·300	·440	·986	·300	·460	·967	·160	22·400	·845	+14	—33	—5·6	Frozen.	Frozen.	Frozen.	2·24	Southerly, S.W.
NOVEMBER . . .	·680	·460	·978	·500	·460	·933	·460	·200	·739	+9	—43	—16·52	..	..	..	3·07	Variable.
DECEMBER . . .	·670	28·970	944	·500	·960	·915	·360	28·700	·634	—4	—48	—26·08	..	..	..	3·68	Variable.
Annual Mean . .	31·000	28·970	29·906	31·500	30·000	30·722	31·000	28·700	30·317	+52	—52	+0·05	37	28	30·2	2·94	
1853.																	
JANUARY	30·120	29.180	29·748	31·160	30·180	30·770	29.860	28·720	29·418	—16	—65	—43·87	Frozen.	Frozen.	Frozen.	4·05	Westerly.
FEBRUARY . . .	·580	·580	30·085	·500	·400	31·046	30·260	29·060	·654	—13	—57	—38·5	..	..	..	2·6	N.W., Variable.
MARCH	·720	·720	·048	·500	·550	·016	·280	·020	·594	+17	—50	—25·4	..	..	..	2.3	N.W., S.W.
Mean for 3 Months	30·720	29·180	26·960	31·500	30·180	30·944	30·260	28·720	29·555	+17	65	—35·9	..	..	..	2·95	

List of Game shot by the Officers and Crew of H.M.S. 'Investigator,' in the Bay of Mercy, from October, 1851, *to April,* 1853.

Months.	Musk-Oxen.	Deer.	Weight of Meat.	Hares.	Ptarmigan.	Wild-Fowl.	Seals.	Fish.	Average weight of Reindeer
1851.	2 Bulls shot in July, weighing 374 and 273 lbs. each.		lbs.					90 lbs. Caught in a small Lake near the Ship.	lbs.
October		9	852	50	42	„	„		95
November . . .		„	„	1	2	„	„		„
December . . .		„	„	„	2	„	„		„
1852.									„
January		2	205	2	13	„	„		102
February . . .		6	433	1	15	„	„		72
March		13	861	20	10	„	„		66
April		19	1155	18	14	„	„		66
May		10	605	9	99	„	„		60½
June		8	519	13	36	35	„		65
July		3	197	14	40	109	2		66
August.		„	„	5	31	55	1		„
September . .		„	„	„	19	„	„		„
October		2	205	9	11	„	„		102½
November . . .		1	75	3	16	„	„		75
December . . .		6	557	3	9	„	„		93
1853.									
January		12	866	6	10	„	„		72
February . . .		10	706	9	10	„	„		70½
March		8	436	19	4	„	„		54½
April		2	180	„	6	„	„		90
Total		112	7852	167	388	199	3	„	70¾

In addition to the above, the following were shot in the Prince of Wales Strait:

27 Hares.
249 Ptarmigan.
50 Wild-fowl (Ducks and Geese).
4 Bears.
5 Musk-Oxen (1269 lbs. of meat).

No regular account was kept of the Foxes that were shot or captured, which may have amounted to 50, and the number of wild-fowl is estimated at a low average.

The following is a List of the Birds and Animals met with in the Polar Sea during the Voyage, and of which specimens were obtained.

MAMMALIA.

Trichecus Rosmarus, Balœna Mysticetus, Beluga Borealis, Monadon Monoceros, Ursus Maritimus, Phoca Vitulina, Bos Moschatus, Cervus Tarandus, Canis Lagopus, Canis Greenlandicus, Canis Argentatus, Lepus Glacialis, Mus Hudsonius, Canis Lupus, Mustela Erminea.

AVES.

Colymbus Glacialis, Colymbus Arcticus, Colymbus Septentrionalis, Grus Canadensis, Anas Bernicla, Anser Hyperboreus, Anas Molissima, Anas Spectabilis, Anas Caudacuta, Anas Glacialis, Larus Glaucus, Larus Argentatus, Larus Tridactylus, Lestris Parasiticus, Sterna Arctica, Tetrao Lagopus, Tetrao Rupestris, Tetrao Saliceti, Strix Nyctea, Procellaria Glacialis, Cervus Corax, Fringilla, Emberiza Nivalis, Caprimulgus Americanus, Hierofalco Candicans, Charadrius Pluvialis, Charadrius Hiaticula, Phalaropus Platyrynchos, Tringa Maritima, Calidris Arenaria, Strepsilas Collaris.

PISCES.

Salmo, Blennius Polaris, Cottus Quadricornis, Cottus Polaris.

INSECTA.

Mosquito (Culex Reptans), two species of Caterpillars (Lepidoptera), genus Bombyx, and two of the Diptera were obtained; the species in either was not determined.

INVERTEBRATA.

Dianœa Glacialis, Cyanea Arctica, Asterias Polaris, Gammarus Lorictaus, Gammarus Boreus, Nais Ciliata, Nymphum Grossipes, Nymphum Hirsutus, Alpheus Aculeatus, Alpheus Polaris, Clio Borealis, Limacina Arctica, Gammarus Lorietaus.

I have to regret that all the specimens of the foregoing birds and animals, were left on board the 'Investigator' when it became necessary to abandon her. The preparations, included the skins, skeletons, and such of the viscera as I considered worthy of preservation. A few specimens of the crustaceous and acephalous animals, not included in the above list, I had reserved for more accurate examination than it lay in my power then to bestow on them.

I may remark, that in the Western Islands (Baring and Melville), where the soil is arenaceous, animal life is more abundant than elsewhere; this gradually decreased as we proceeded to the eastward, where the limestone formation generally prevailed. But the greater number of Bears, Seals, Walruses, and Sea-fowl met with—although these are more difficult to procure than Musk-Oxen or Reindeer—by their great size afford sufficient compensation; the carbonaceous element of the food (fat), the great supporter of respiration and life, being so largely supplied.

The following is a List of the Plants collected by the late Robert Anderson, Esq., Surgeon of H.M.S. 'Enterprise,' presented to the Royal Gardens at Kew, examined by Dr. J. D. Hooker, F.R.S., and described by him in the "Journal of the Proceedings of the Linnæan Society for November," 1856."

FROM THE COAST OF NORTH AMERICA.

Senecio aureus, Artemesia Vulgaris, *var.* Silesii, Leucarthemum Arcticum, Arbutus alpina, Androsace chamœjasme, Salix Polaris, Triticum repens, *var.* purpureum, Poa laxa, Dupontia Fischeri, Calamagrostis stricta, Festuca brevifolia.

FROM BARING ISLAND, OR BANKS LAND.

Ranunculus nivalis, Papaver nudicaule L. (abundant), Cardamine digitala, Draba alpina glacialis et algida, Draba incana, Draba rupestris, Cochlearia Anglica, Stellaria longipes, Lupinus perennis, Dryas integrifolia, Potentilla nana, Saxifraga flagellaris, Saxifraga cœspitosa, Saxifraga oppositifolia, Erigeron ——, Polemonium cœruleum, Primula Hornemanniana, Phlox Richardsonii, Oxyria reniformis, Salix myrtilloides, Salix speciosa, Catabrosa aquatica, Carex rigida.

FROM PRINCE ALBERT'S LAND.

Anemone Richardsonii, Caltha Arctica, Hesperis Harkeri, Vesicaria Arctica, Platypetalum purpurascens, Entrema Edwardsii, Linum perenne, Hedysarum boreale, Oxytropis nigrescens, Epilobium latifolium, Epilobium alpinum, Hip-

puris Vulgaris, Saxifraga Hirculus, Saxifraga aizoides, Saxifraga hieraciifolia, Chysosplenium alternifolium, Artemesia borealis, Leucanthemum integrifolium, Campanula linifolia, Vaccinium religinosum, Androsace Septentrionalis, Pedicularis capitata, Pedicularis Sudetica, Armeria Arctica, Salix myrsinites, Salix Richardsonii, Salix desertorum, Salix reticulata, Glyceria Arctica, Deschampsia cœspitosa, Hierochloe pauciflora, Calamagrostis purpurascens, Calpadium latifolium, Eriophorum vaginatum, Carex scirpoidea, Carex incurva, Carex stans, Carex compacta, Carex vaginata, Carex fuliginosa, Carex ustulata, Elyna spicata, Cystopteris fragilis.

FOUND ON BOTH BARING ISLAND AND PRINCE ALBERT'S LAND.

Ranunculus affinis, Draba hirta, Silene acaulis, Lychnis apetala, Honekeneya peploides, Cerastium alpinum, Hedysarum McKenzii, Phaca aboriginorum, Oxytropis Campestris, Oxytropis Uralensis, *var.* Arctica, Potentilla ninca, Taxifraga tricuspidata, Saxifraga nivalis, Saxifraga cernua, Saraxacum dens-leonis, Senecio frigidus, Senecio palustris, *var.* Congestus, Arnica Angustifolia, Erigeron uniflorum, Nardosmia corymbosa, Cassiopea tetragona, Castilleja pallida, Pedicularis hirsuta, Polygonum viviparum, Elymus arenarius, Alopicurus alpinus, Eriophorum capitatum, Eriophorum polystachum, Equisotum arvense.

A Description of the Manner in which H.M.S. 'Investigator' was strengthened for Service in the Arctic Regions, by Wm. M. Rice, Esq., Master Shipwright of Woolwich Dockyard, on whose Plan and under whose Superintendence the Work was done.

The 'Investigator,' of 422 tons, fitted at Messrs. Green's Yard, Blackwall, April, 1848, for Arctic Service, was fortified externally by solid chock channels, and ice-stages, extending from the hawse bolsters to the quarters; the side is doubled with 7 in. teak plank under the channels, increasing to 8 in. at the wale, which is 3 feet broad; from thence 4 strakes of teak, diminishing in thickness from 8 in. to 5½ in., 7 strakes of English oak from 5½ in. to 4 in.; and at the turn of the bilge, 4 strakes of from 4 in. to 5 in. Canada elm; 7 strakes of English oak from 5 in. to 3 in., and the remainder of the bottom, to the keel, is of 3 in. Canada elm.

The quarter galleries are removed, and the stern and quarter pieces strongly united; all rails and projections being carefully avoided.

The knee of the head being removed, the bow is fortified, and terminated by ice-chocks, over which are fastened galvanized iron plates 5-16ths of an inch thick. An iron rubbing-plate is also fitted to the front of the ice-stage and channels.

Within-board, the spaces between the bands at the floor-heads, &c., are filled in, and the entire surface being caulked, two thicknesses of 1½ in. African boards are worked diagonally, at right-angles to each other, from the

timbers to the lower-deck shelf; the seams of each layer being caulked, and felt laid between the surfaces.

Ten pairs of iron diagonal riders are worked in the hold, and ten pairs of diagonal plates on the sides of the vessel between decks.

The bows and stern are fortified internally by wood sleepers, breastworks, and iron crutches; great attention has also been paid in the arrangement of diagonal castings, radiating square to the bows, under the beams of each deck, terminating at the shelf-pieces and hooks, to meet as effectively as possible the pressure of ice.

Between the upper and lower decks, and also between the lower and orlop decks, as well as in the hold, where tie-beams have been introduced, thick shelf-pieces are worked, terminating under the transom abaft, and meeting at the middle line forward.

Filling chocks have been fitted in the after part, with a second transom kneed to the sternpost and ship's side, double-planked, within and without-board, thus affording great strength to the stern to meet the shocks to which the counter may be subjected.

The thwartship bulkheads of the fore, main, and after holds, are wrought diagonally of two thicknesses of 1½ in. English oak plank, at right-angles to each other, the upper ends rabbetting into the lower-deck beams, and the lower ends into 4 in. plank wrought upon the doubling; the bulkheads are caulked on both sides, and rendered watertight; the wing bulkheads are similarly wrought. The limber-boards are caulked down, and doubled over with fore and aft planks, which serve to receive the diagonal ceiling.

Penstocks are introduced on each side of the keelson, through each bulkhead, allowing a free water-course, when

required, from one water-tight compartment to another, leading to the well.

The fore hold is provided with two common iron pumps, to work on the weather-deck, and the well is furnished with four of Massey's excellent pumps.

The pillars between decks, and in the hold, are tied together by means of screw-bolts and tee-plates, the lower ends being well secured to cross-chocks bolted to the floors; experience has proved the need of security against the decks rising; and thus, when under extreme pressure in the ice, to prevent the ship's sides being forced in.

The upper-deck is doubled with 3 in. fir plank, laid diagonally between the water-way and binding-strakes amidships, having felt, saturated in hot tallow, laid between the two surfaces.

The ship's sides, between decks, are entirely covered with felt, upon which a covering of $\frac{3}{4}$ in. fir board is brought on.

The vessel is provided with Preston's Patent Ventilating Illuminators, let into the deck over the cabins and mess-tables; Phillip's Power Capstan; Windlass with purchase ends; Sylvester's Warming Apparatus; Bowser's Fire-hearth, with Snow-tank for supply of fresh water; to which, also, has been adapted a mode of ventilation.

Description of the Warming Apparatus erected on board H.M.S. 'Investigator.'

The ships composing the several Arctic Expeditions which have been despatched by the Government, have been provided with an efficient apparatus for warming them. The arrangements for this purpose combine a general system of ventilation, by which the air of every part of the vessel is regularly warmed.

The apparatus consists of a stove or *cockle* in which the fresh air is warmed; of an arrangement of tubes for conveying the warmed air to the officers' berths, the Captain's cabin, and the fore part of the ship; of a smoke-pipe which diffuses its heat between decks; and of a ventilating funnel which carries off the smoke and vitiated air.

The cockle is fixed in the hold close to the main hatchway, upon a prepared floor of planking laid upon the kelson, and covered with copper. Beneath the planking, and between it and the inside ceiling of the bottom of the ship, is a hollow chamber, into which the fresh air descends by the main hatchway. In the vessels recently fitted out, a large iron pipe has been provided, which establishes a communication between the fresh air chamber under the stove and the external air. This pipe acts upon the principle of the wind-sail, being provided at its upper extremity with a cowl, the mouth of which is always kept towards the wind by means of a vane attached to it. Holes are cut in the planking under the cockle for the ascent of the fresh air, to replace that which has been warmed.

The cockle is of cast-iron, about three feet square, and

consists of two pyramidical frustrums placed one within the other, and resting upon a cast-iron foundation plate, the largest end of each frustrum being at the top, and the outer one supporting a pyramid which covers in the whole. The inner case contains the firetplace, which is lined at the sides with fire-tiles, and the fire is fed with fuel by a door which opens through the outer case. By this construction, no part of the surfaces by which the air is warmed are in contact with the burning fuel, and the frequent cause of contamination in hot-air stoves, from a portion of the plates becoming over-heated, is avoided. The rays of heat from the fire strike upon the under side of the covering pyramid, while the smoke passes off at each side over the upper edge of the inner frustrum, and descends at the sides and back through the space between the two cases, which is about three inches at the top, and eight inches at the bottom. The smoke escapes from the bottom of the case into a horizontal flue of cast-iron, bolted to the under side of the foundation plate. The sides of the outer case and the pyramidal top are corrugated externally, for the purpose of increasing the surface in contact with the air, in order that the metal may part with its heat so rapidly, that the plates cannot obtain such a temperature as would render the air warmed by them unwholesome.

The cockle is enclosed within a square jacket of plate-iron, which rests at the bottom upon the planking of the fresh air chamber. The upper edge of the jacket supports four triangular cast-iron plates, which converge to a point a few inches above the pyramidal top of the cockle, thus forming another pyramid above the cockle. These plates are perforated with holes, from which sheet-iron tubes descend to within an inch of the top of the cockle. The

object of this arrangement is, firstly, to prevent any veins of air escaping unwarmed, as would be the case if the upper part of the jacket were quite open to the chamber above it; and secondly, to cause the current of air to impinge forcibly upon the heated metal, with the view of abstracting its heat more rapidly. The tubes are 2 inches in diameter, and 108 in number.

The air, as it ascends from the fresh air chamber beneath the cockle, comes first in contact with the bottom flue, from which it receives its first portion of heat. Thence it passes up by the space between the outer case of the cockle and the enclosing jacket into the tube chamber, from which it escapes by the tubes into a warm air chamber above the apparatus. The angle which the tube-plates make with their base is much smaller than that of the top of the cockle, so that the section of the tube chamber shows a continually decreasing area from its side towards the apex. This arrangement provides a space for the passage of the air between each row of tubes equal to the area of all the tubes beyond. The collective air-way of the tubes is 2.3562 feet, and the velocity with which the air passes through the tubes being found to average about 6 feet per second, the quantity of fresh warmed air supplied to the ship may be estimated at about 800 cubic feet per minute. At this rate, if the cubic contents of the inhabited portion of the vessel be taken at 24,000 feet, the whole air of the ship would be renewed twice in one hour.

The air chamber over the cockle is of the capacity of about a cubic yard, and from the upper part of it two caliducts branch off to the sides of the ship. These caliducts, as well as the enclosure of the warm-air chamber, are formed of sheet-iron, put together in double thicknesses, with about

an inch of air-space between the two envelopes, for the purpose of preventing the loss of heat by the warmed air in its passage through them.

At the sides of the ship the caliducts rise through the lower deck, and are connected to horizontal tubes of light sheet-iron, which extend themselves fore and aft along the ship's side, passing through all the officers' state-rooms, and terminating at one end in the after-cabin, and at the other end in the open part of the ship forward, where the men mess. In its passage through the officers' state-rooms, the warm-air tube passes between the ship's side, and the standing bed-place, or berth. The space enclosed between the berths and the ship's side is open below to the general air of the cabin, and at top is covered with perforated zinc, through which the warm air ascends. These tubes, which are of large dimensions, are perforated with numerous small holes, which increase in number as the distance from the warming apparatus becomes greater. The ends of the hot-air tubes in the after-cabin are fitted with hinged valves, adjustable by means of a quadrant rack, for the purpose of regulating the admission of warmed air; in the fore part of the ship, the ends of the tubes are perforated with holes.

The causes that give motion to the warmed air, and ensure its distribution equally throughout the ship, are—

1st. Its own diminished specific gravity as compared with the colder air of the external atmosphere, which, passing in through the openings at the base of the cockle, displaces the body of air within the apparatus which has been heated by contact with the metal, and drives it forward through the tubes provided for its conveyance to the various parts of the ship.

2nd. The influence exerted upon the warm-air currents

by the fires in the galley, and cabin stove, which draws the air towards the extreme ends of the vessel. It is necessary, for this reason, that an uninterrupted communication should be maintained between the openings at the termination of the horizontal tubes, and the general air of the ship. The stove in the cabin should have an open fire, with a good-sized smoke-funnel from it into the open air.

The smoke-flue from the warming apparatus, which has been described as taken off from the bottom of the stove, is made the means of affording additional heat to the open space between decks. A vertical smoke-flue of about one foot diameter is carried up from the bottom of the cockle to the under side of the upper or "spar" deck. This communicates with an horizontal smoke-tube, of a flattened oval form, and put together, like the caliducts, with two thicknesses of plates, and an intervening air-space. The oval tube is suspended from the beams of the upper deck, and extends the whole length from the main to the fore hatchways. Besides its use in warming the ship, this pipe serves a useful purpose in drying the clothing of the men in wet weather. The smoke-pipe terminates in the ventilating funnel near the fore hatchway.

The ship being thus filled with an abundant supply of fresh warmed air, the vitiated air is extracted: firstly, by means of the large open fire in the cooking galley; and secondly, by a ventilating chimney, or funnel, which surrounds the smoke-pipe from the galley and cockle; and is carried up to a considerable height, and terminating with a cowl, acting in the ordinary mode, by its mouth being averted from the wind.

In this apparatus, the cockle itself, with the whole of the caliducts, and hot-hair tubes, are fixtures, but the smoke-

flues are moveable, and are usually taken down and stowed away, when the apparatus is not in use, and set up again when required.

The apparatus is constructed for burning coal, when that can be obtained, but in the various Arctic Expeditions "lignum vitæ" has been extensively used as fuel.

S. Egan Rosser, C.E.

6, Cannon Row, Westminster.

Copy of a Letter addressed to the Director-General of the Medical Department of the Navy, on the Quality of the Lemon-Juice furnished to the Expedition.

Adelphi Hotel, Oct. 31st, 1854.

Sir,

In compliance with your request, that I should report to you, for the information of my Lords Commissioners of the Admiralty, my opinion of the Lemon-juice supplied to H.M.S. 'Investigator,' touching its quality and efficacy as an antiscorbutic agent.

I have now the honour to inform you, that I carefully tested the two different kinds of acid, on leaving England, and at regular intervals subsequently throughout the entire period of the commission, up to the time of the abandonment of the ship; and accurately noted the results, that I might be enabled to arrive at a just estimate of their strength, and detect any deterioration they might subsequently undergo.

In the strength of acidity and power of neutralizing

alkalies, I found both kinds far exceed in these properties the Lemon-juice of commerce, or any that my professional experience had hitherto made me acquainted with. Although subjected to every possible vicissitude of temperature, from the highest Equatorial heat to the intensity of Arctic cold, I was unable to detect the slightest change or deterioration in their strength or properties.

To their great excellence as antiscorbutic agents, I can with confidence bear the most ample testimony; for, unfortunately, I was afforded an opportunity of but too fully testing their efficacy when Scurvy and scorbutic debility universally existed amongst us. To the great regularity that was observed in the issue of these acids, and the positive evidence which was afforded me, that every officer and man drank their allowance, I attribute (as one of the principal causes) much of the comparative good health and freedom from Scurvy which, for a period of nearly the two first years, we enjoyed.

When Scurvy, at length, appeared so generally amongst us, I found the Lemon-juice the most efficacious and speedy agent, not only in arresting its progress, but in eradicating the disease, until the influence of those causes which originally produced it (cold and insufficient food) again re-established it. I had recourse to it in all the scorbutic cases, with the utmost confidence, from the tried excellence of the acids: on it I placed the greatest reliance—it was my unfailing hope, and as long as I could command a liberal supply, I was never disappointed in the anticipated results.

I may also be permitted to remark, that it was not until some time after the supply of the acid for the use of the sick had been much curtailed, in consequence of the diminished resources of the ship (as I was informed), that the number

of our crew suffered any diminution by death, after a period of more than three years had elapsed. I am also enabled to report favourably of it, as an external application to ulcers or abrasions occurring in a scorbutic habit of body.

I am, however, almost unable to say which kind of acid I could most strongly recommend as an antiscorbutic—the excellent acid properties of both I found equally unimpaired, and in their relative efficacy I could detect no difference: but, as well as frequent observations enabled me to judge, the boiled acid deposited a greater amount of its mucilaginous constituents than the unboiled, or that which was prepared with spirit, and for this reason I think the antiscorbutic properties of the latter might remain longer unimpaired, and consequently be considered the better preparation for general issue in Her Majesty's Navy.

I have the honour to remain,

Sir,

Your most obedient servant,

ALEX. ARMSTRONG, M.D.,
Surgeon, Royal Navy.

The Director-General,
Naval Medical Department.

THE END.

LONDON:
Printed by Schulze and Co., 13, Poland Street.

Digitized with financial assistance from the
Government of Maharashtra
on 28 September, 2015